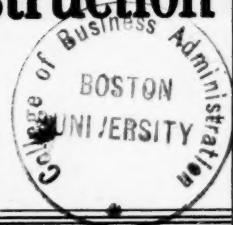
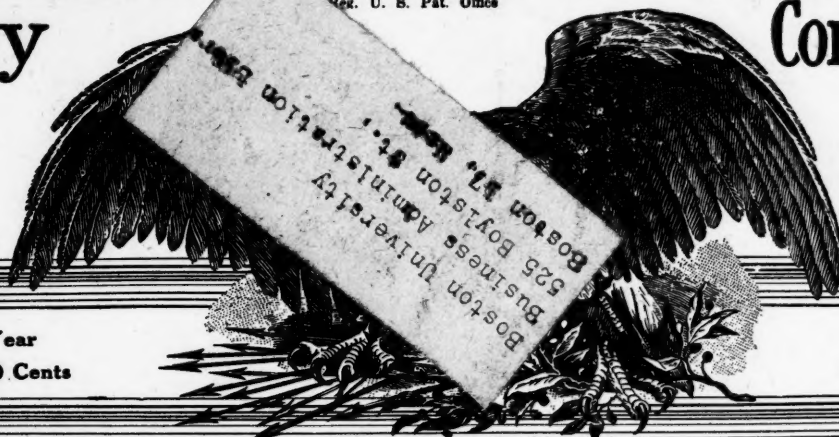


Manufacturers Record

Industry Construction



\$6.50 per Year
Single Copy, 20 Cents

Baltimore, Md.
APRIL 16, 1931

Price Cutting

Trades and industries generally complain of the upset being caused by cut-throat competition that presents its destructive side in making prices which are below the cost of production. The heedlessness of one producer may affect an entire industry. Trade bodies find it impossible to regulate, within their own ranks, on account of governmental restrictions, a most troublesome and unsettling condition. In the eagerness to secure orders, all bounds of sane competition are frequently overstepped by a wholly unwarranted slash in prices. Such a course destroys profits, threatens employment and promotes instability.

A great deal of discussion has taken place of late in regard to the question of a repeal, or at least of some change, in the anti-trust laws whereby greater latitude may be given business in its present uphill fight.

It is contended that unless production is controlled in a reasonable manner the effect on prices will be widespread and will very probably require a long period of readjustment.

Business at the moment, in search of a clearer course ahead, is disturbed over government anti-trust activities directed against various trade associations. A conference of industrialists from the membership of the National Association of Manufacturers approaches the subject sanely and properly, not from the standpoint of abolishing laws that have accomplished good, but to try to recommend such modifications as may seem desirable. These manufacturers are in general agreement with the spirit and intent of the laws as they now exist, but feel—and this is shared very widely—that some way must be found whereby continued over-production, which leads to destructive price cutting, may be avoided.

In its effort to develop new markets and to keep its labor employed, industry needs and should have encouragement in every proper way.

Grueling Punishment Hour after Hour

*... yet these special sheets formed
precisely with little breakage*

ROW upon row of huge presses driving down relentlessly on thin blanks of steel . . . revealing in crushing impacts their freedom from hidden weaknesses and flaws.

Sheets of Armco special analysis iron and steel are being fed into the great mouths of these mighty automatons. Day after day these are subjected to this punishing treatment that rejects all but the fit.

Wherever there are hazards in drawing intricate shapes from highly finished sheets, Armco can help you attain a profitable percentage of perfect pieces. Its long experience, trained organization, and highly mechanized continuous mills are assets that can yield you gratifying dividends in efficient and economical production.

An experienced Armco engineer will gladly study the individual needs for every product or part. Ask the office nearest you for the services of this specialist in sheet and plate metal.

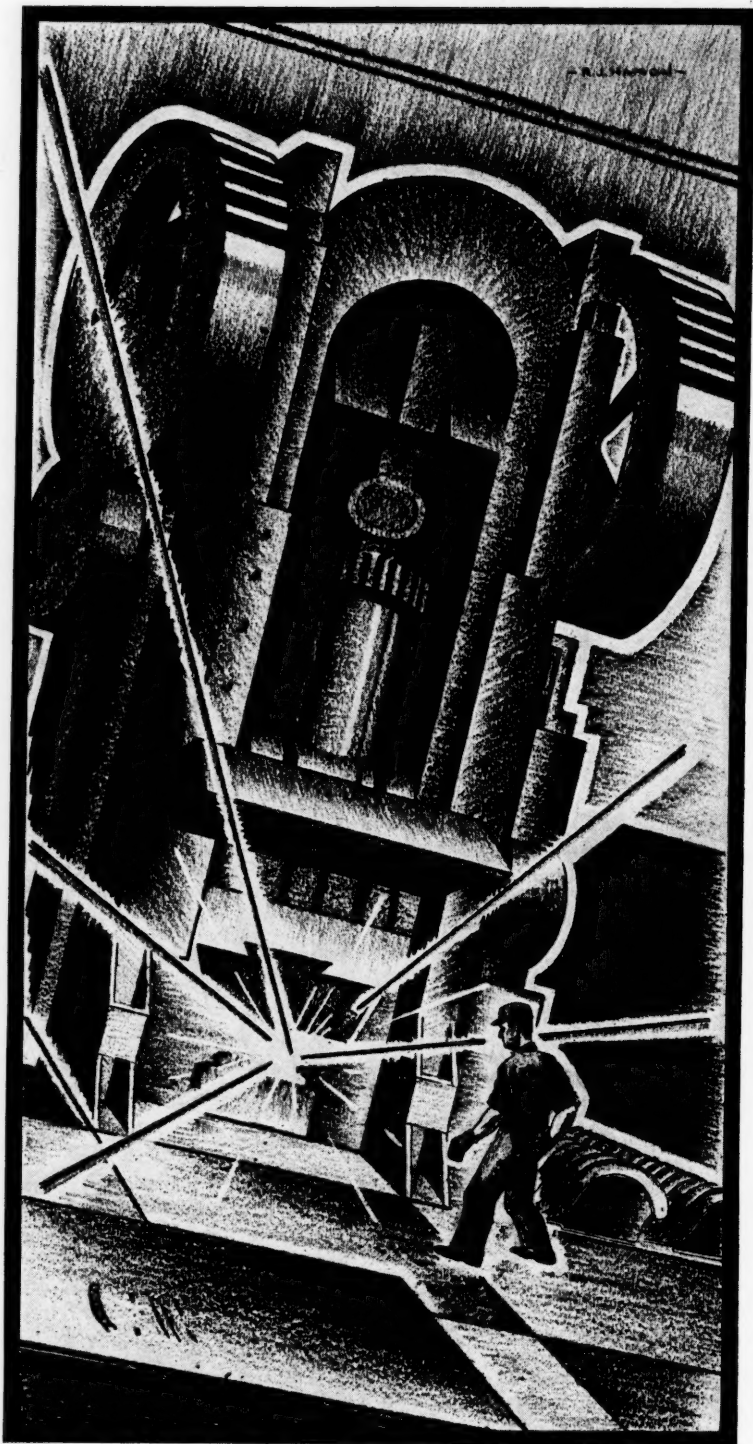
THE AMERICAN ROLLING MILL COMPANY

Executive Offices, Middletown, Ohio

Export: The ARMCO International Corporation

District Offices

Chicago — Cincinnati — Cleveland — Detroit — New York
Philadelphia — Pittsburgh — St. Louis — San Francisco



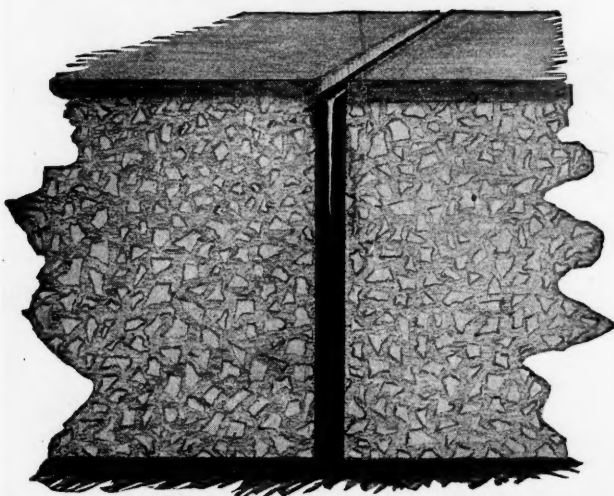
PRODUCERS OF
ARMCO IRON AND STEEL
SHEETS
FOR EXACTING PURPOSES



PIONEER PRODUCERS OF SPECIALTY SHEETS AND PLATES

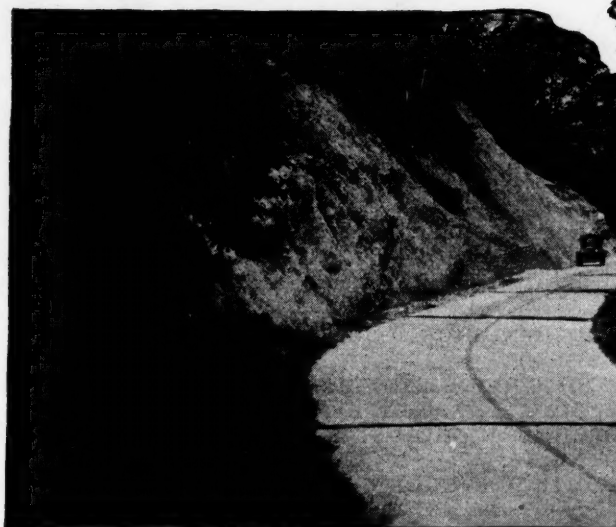
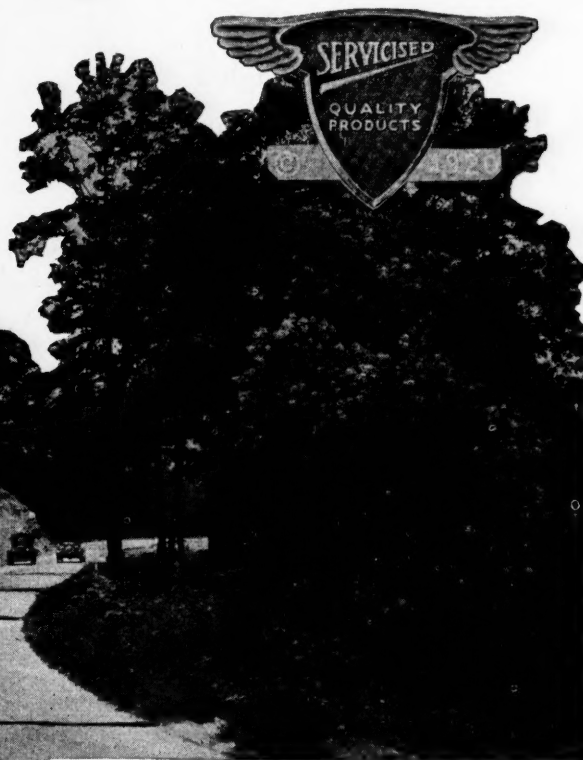
Entered as second-class matter at the Postoffice, Baltimore, Md., under the act of March 3, 1879.

BETTER EXPANSION JOINTS



BASE FILL OF THE PERFECT POURED JOINT

The cross-section view at the left shows a joint or crevice base fill with—cold poured—SERVICISED LIQUID RUBBER ASPHALT—a tough elastic filling—non-oozing in nature, which sets to a leathery mass.

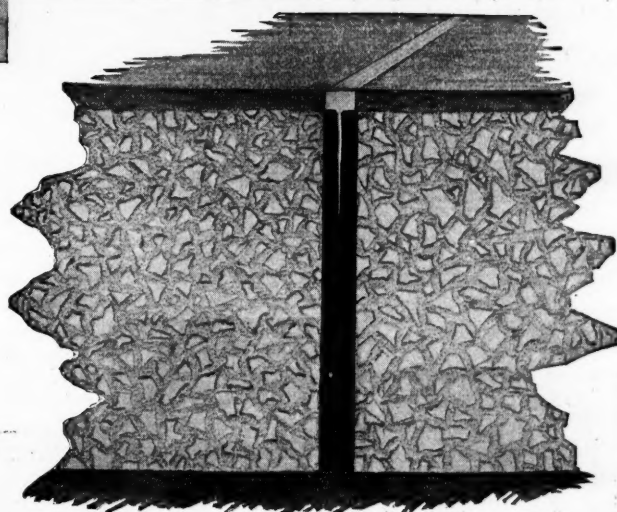


THE PERFECT POURED JOINT

The cross-section view to the right shows the Perfect Poured joint or crevice fill—note the top finish filler—

SERVICISED GRAY FILLER

poured cold or hot from emulsified or solid form as desired—removes the unsightly black lines from paving and makes a better expansion joint. Write for full particulars.



OTHER SERVICISED PRODUCTS

Asphalt Planks
Rail Filler
Asphalt Tile
Rubber Block

Expansion Joints
Asphalt Emulsions
Colored Emulsions
Cable Trunking

SERVICISED
REG. U. S. PAT. OFF. © 1919

PREMOULDED PRODUCTS, INC.

GENERAL DISTRIBUTORS For Products Manufactured By
SERVICISED PRODUCTS CORPORATION

Chicago
53 W. Jackson Blvd.

Factories and Sales Offices
Sandusky, Ohio
1st and Sandusky St.

Wilmington, Del.
Church & F. St.

DISTRIBUTORS and DEALERS IN PRINCIPAL TRADING CENTERS

FORGED STEEL HANGERS by

As seen in
DEEP WATER STATION
where W. S. P. is 1350 lbs.

YOU would enjoy going through the Deep Water Power Station, because of many arresting installation features. And your admiration will at once be awakened by the mechanical perfection with which the piping is hung.

Gripping the I-beams overhead are swivel-jawed clamps which tell you the importance of materials needed in such a job, where working steam pressure is 1350 pounds.

No misfit affairs here—or hand made devices—but scientifically designed universal clamps of forged steel. They fit one width of beam as

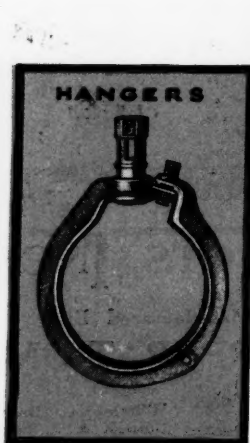


Three sizes of the rugged UFS—Universal Forged Steel—I-Beam Clamp Hangers carry pipe from $\frac{1}{4}$ inch to 24 inch, and fit flanges of all standard I-Beams up to 24 inches in size.

well as another under the most difficult conditions.

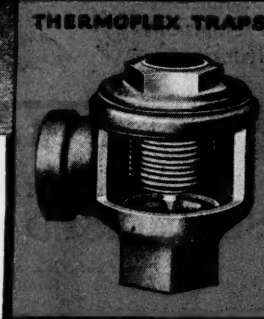
For maximum loading conditions these U. F. S. I-Beam clamps provide a 12 to 1 factor of safety where the greatest stresses occur. And the dies in which they are forged insure uniformness in every unit bearing the Grinnell Triple XXX stamp.

ALL THESE GRINNELL PRODUCTS



Pipe fittings, cast and malleable, perfectly threaded, accurately machined and rigidly inspected. Pipe hangers adjustable after the pipe is up. Reduce installation costs and maintenance expense.

This trap, with the famous Hydron Bellows, will operate a radiator for a lifetime without repairs.

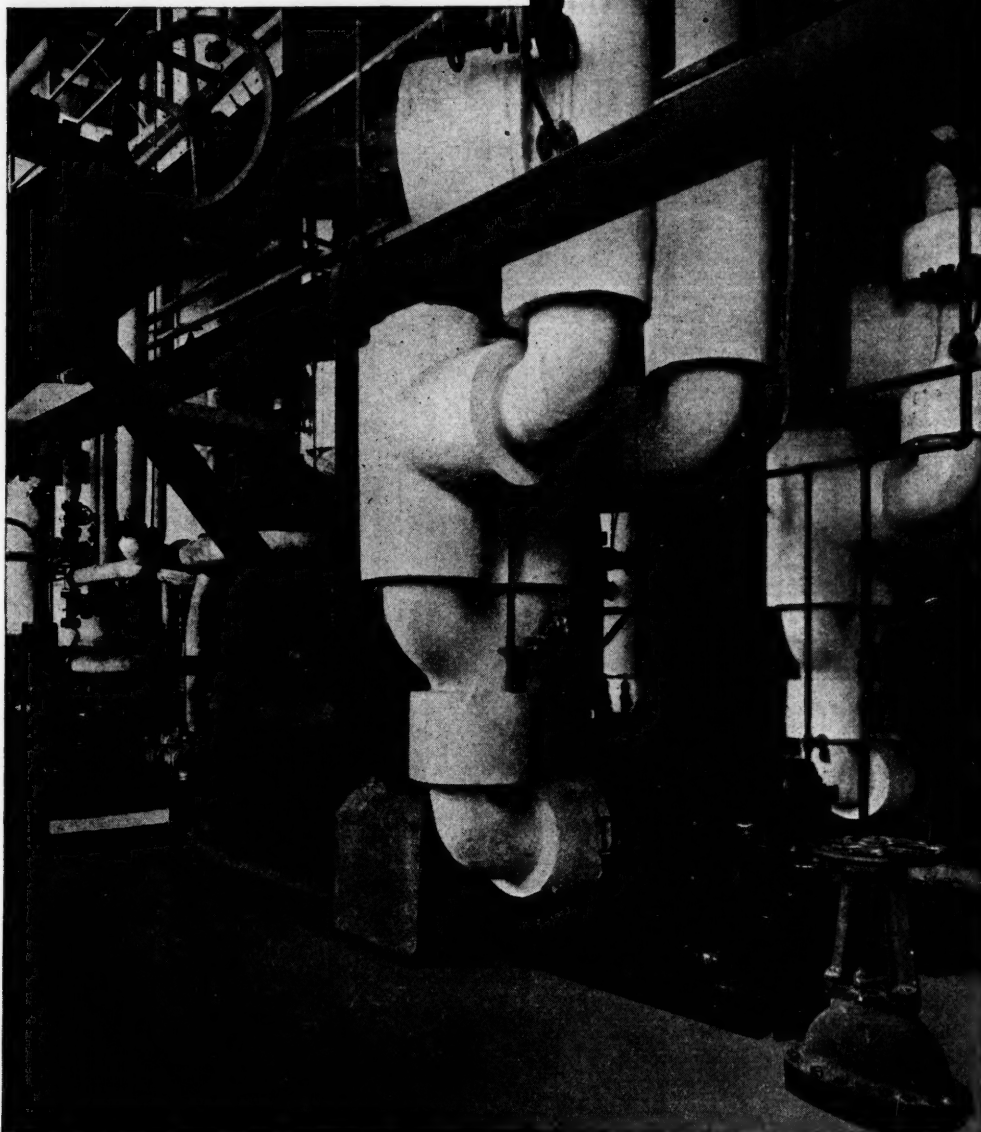


The famous Quartz bulb sprinkler head. In most cases sprinklers will reduce insurance expense from 50 to 90 percent.

Where air dryness, adversely affects processes, large savings are made by our humidification equipment.



GRINNELL



DEEP WATER POWER STATION

DEEP WATER, N. J.

*The largest high-pressure power
plant in the world.*

BENJ. F. SHAW CO.
WILMINGTON, DEL.

Piping Contractors

STEVENS & WOOD
Consulting Engineers

**TRIPLE
XXX
PRODUCTS**

GRINNELL COMPANY

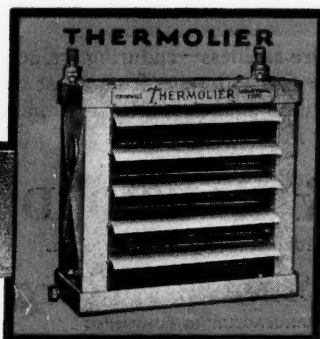
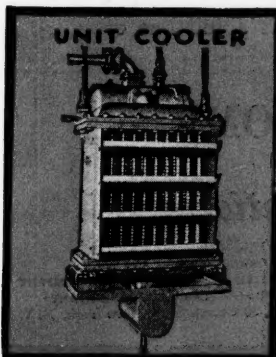
INCORPORATED

Branches in all Principal Cities

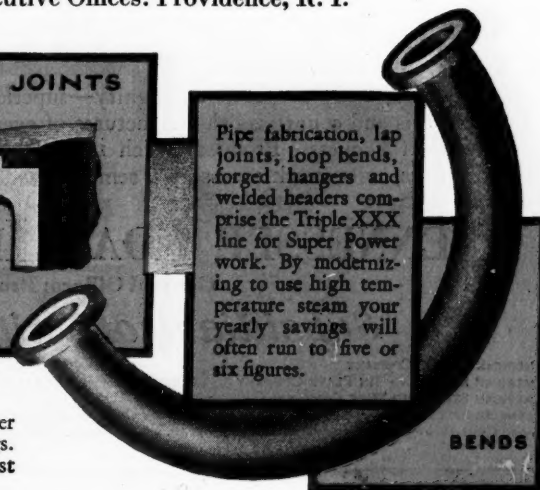
Executive Offices: Providence, R. I.

WILL SAVE MONEY

A revolutionary improvement
in refrigeration. It replaces
more than ten times its weight
in pipe coils.

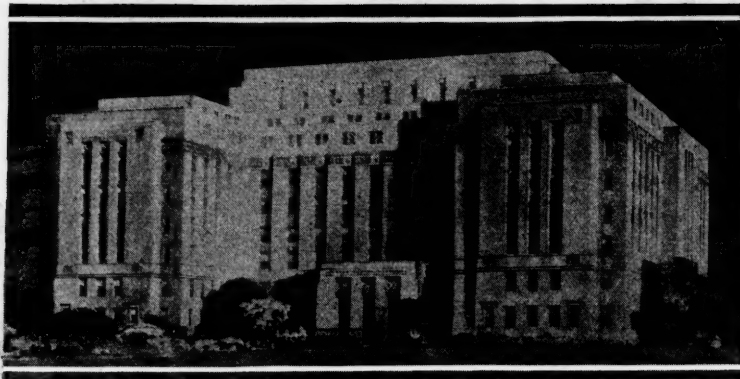


This remarkable Unit Heater is a better and cheaper
means of heating industrial and commercial buildings.
Heating systems can usually be modernized almost
over-night, with a tremendous saving on fuel.



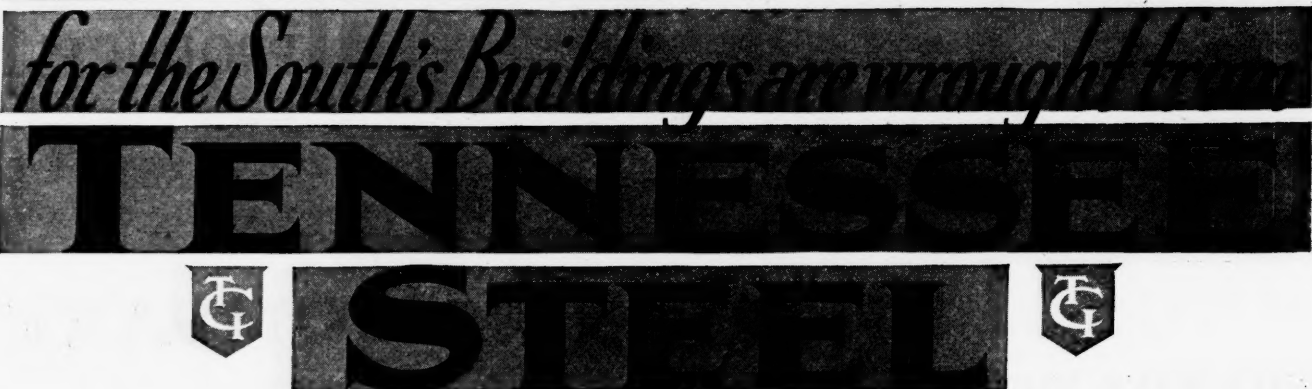
Pipe fabrication, lap
joints, loop bends,
forged hangers and
welded headers com-
prise the Triple XXX
line for Super Power
work. By moderniz-
ing to use high tem-
perature steam your
yearly savings will
often run to five or
six figures.

BENDS



Jefferson County Court House, Birmingham

Architects—Holabird & Root
Associate Architect—Harry B. Wheelock
Fabricators—The Ingalls Iron Works Company
Contractors—Southern Ferro Concrete Company



The Jefferson County Court House at Birmingham is still another imposing civic monument in the erection of which Tennessee Structural Steel has played an important part.

Sturdy, finely proportioned dignity—superior strength—fire-safeness—enduring value—have been attained in this and countless other structures of every conceivable size and type, from coast to coast, through the use of Tennessee Products which include not only structural shapes, plates and bars, but a full line of sheets, rails, track accessories, semi-finished steels and pig iron.

TENNESSEE COAL, IRON & RAILROAD COMPANY

General Offices: Brown-Marx Building, Birmingham, Ala.

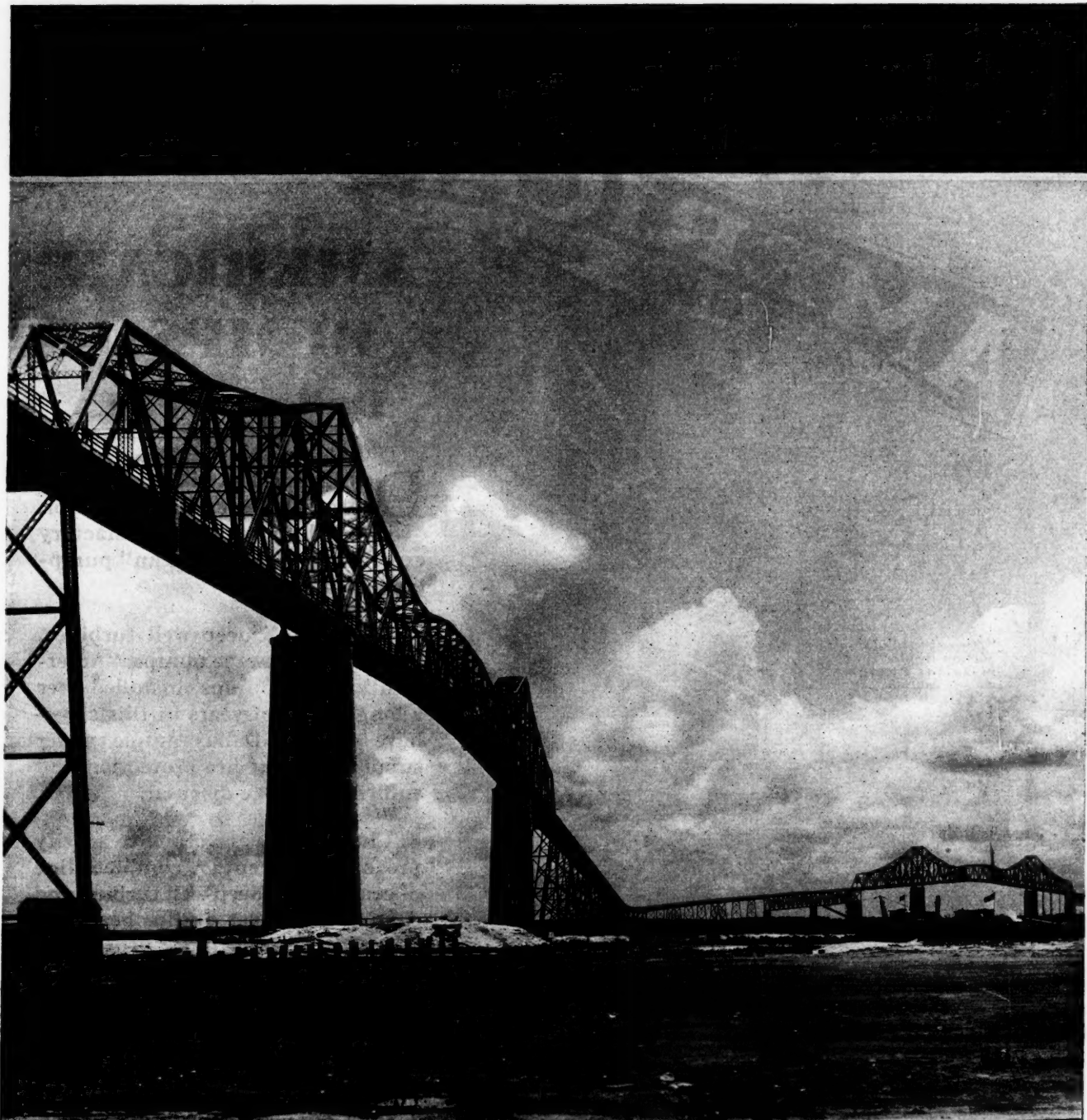
Subsidiary of United States Steel Corporation

AMERICAN BRIDGE COMPANY
AMERICAN SHEET AND TIN PLATE COMPANY
AMERICAN STEEL AND WIRE COMPANY
CARNEGIE STEEL COMPANY
Pacific Coast Distributors—Columbia Steel Company, Russ Building, San Francisco, Calif.

PRINCIPAL SUBSIDIARY
COLUMBIA STEEL COMPANY
CYCLONE FENCE COMPANY
FEDERAL SHIPBUILDING AND DRY DOCK COMPANY
Export Distributors—United States Steel Products Company, 30 Church Street, New York, N. Y.

MANUFACTURING COMPANIES
ILLINOIS STEEL COMPANY
MINNESOTA STEEL COMPANY
NATIONAL TUBE COMPANY

OIL WELL SUPPLY COMPANY
THE LORAIN STEEL COMPANY
TENNESSEE COAL, IRON & R. R. COMPANY
UNIVERSAL ATLAS CEMENT COMPANY



COOPER RIVER BRIDGE
Charleston, S. C.
Total length over two miles
11,500 TONS OF STEEL
Built by
McClintic-Marshall
Subsidiary of Bethlehem Steel Corporation

DESIGN BY WADDELL AND HARDESTY, CONSULTING ENGINEERS



AMERICAN
AURORA, ILL.

"American" Double
Suction Booster Pumps
in Dallas Pumping
Station

"AMERICAN" PUMPS at Dallas, Texas

DALLAS selected "American" pumps for a new booster station based on years of satisfactory experience with "American" pumping equipment.

"American" deep well turbines, "American" sewage pumps, "American" service pumps, installed over a long period of years in this city—have insured Dallas ample water supply, efficient fire protection and sufficient sewage disposal.

City officials are prone to specify proved equipment. A complete line of centrifugal, deep well turbine and deep well plunger pumps bears the "American" trade mark—the advisory service of a corps of engineers familiar with modern municipal pumping is at your disposal.

Booklets showing municipal sewage installations or municipal pumping installations will be sent to any city engineer—gratis!

BRANCH OFFICES

CHICAGO, ILL., 20 N. WACKER DRIVE KANSAS CITY, MO., COMMERCE BLDG.
LOS ANGELES, CALIF., 416 E. THIRD ST. NEW YORK, N. Y., 165 BROADWAY

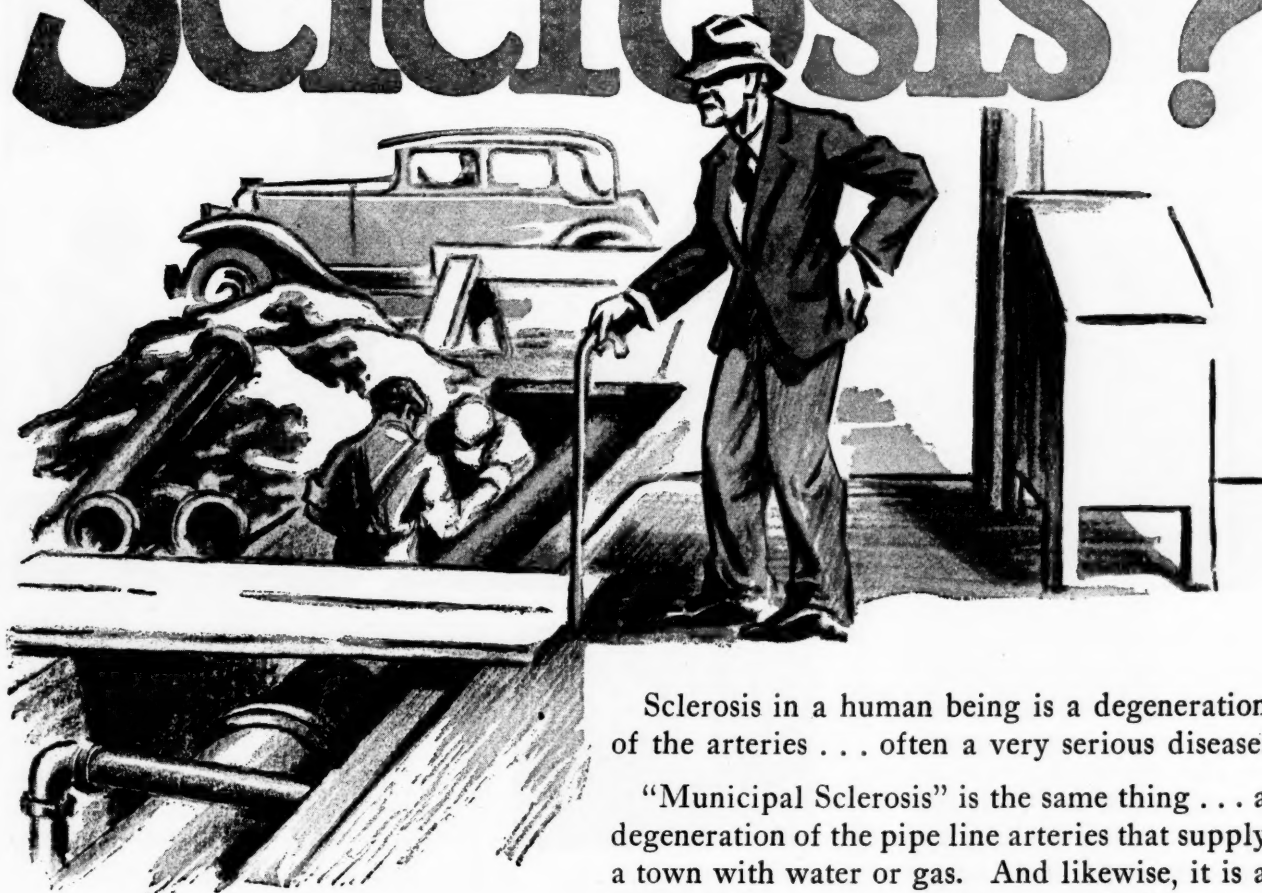
DISTRICT SALES AGENCIES

ATLANTA, GA.	HOUSTON, TEX.	SALT LAKE CITY, UTAH
BIRMINGHAM, ALA.	JOPLIN, MO.	SAN FRANCISCO, CALIF.
CAMBRIDGE, MASS.	MILWAUKEE, WIS.	SEATTLE, WASH.
CHARLOTTE, N. C.	NEW ORLEANS, LA.	ST. LOUIS, MO.
DALLAS, TEXAS	OMAHA, NEB.	ST. PAUL, MINN.
DENVER, COLO.	PHILADELPHIA, PA.	TULSA, OKLA.
DETROIT, MICH.	PORTLAND, OREGON	VANCOUVER, B. C., CANADA
EL PASO, TEXAS	PORTALES, N. MEX.	

THE AMERICAN WELL WORKS

General Offices AURORA, ILLINOIS and Factory

Will your town ever have . . . **Sclerosis?**



Sclerosis in a human being is a degeneration of the arteries . . . often a very serious disease.

"Municipal Sclerosis" is the same thing . . . a degeneration of the pipe line arteries that supply a town with water or gas. And likewise, it is a very serious matter. There practically is no cure.

But "municipal sclerosis" can be prevented. Simply use Clow-National cast iron pipe for water mains or gas mains. Cast iron pipe lasts for centuries . . . it does not deteriorate from corrosion. Ask for further particulars.

Clow-National Sales Offices:

Minneapolis, Des Moines, Madison, Wis., Milwaukee, Highland Park, Ill., St. Joseph, Mich., East Grand Rapids, Mich., Detroit, Chicago, Aurora, Ill., Peoria, Ill., Toledo, Cleveland, Lima, Newcomerstown, Pittsburgh, Boston, Albany, N. Y., New York, Philadelphia, Birmingham, Dallas, Houston, Kansas City, Salt Lake City, Los Angeles, San Francisco.

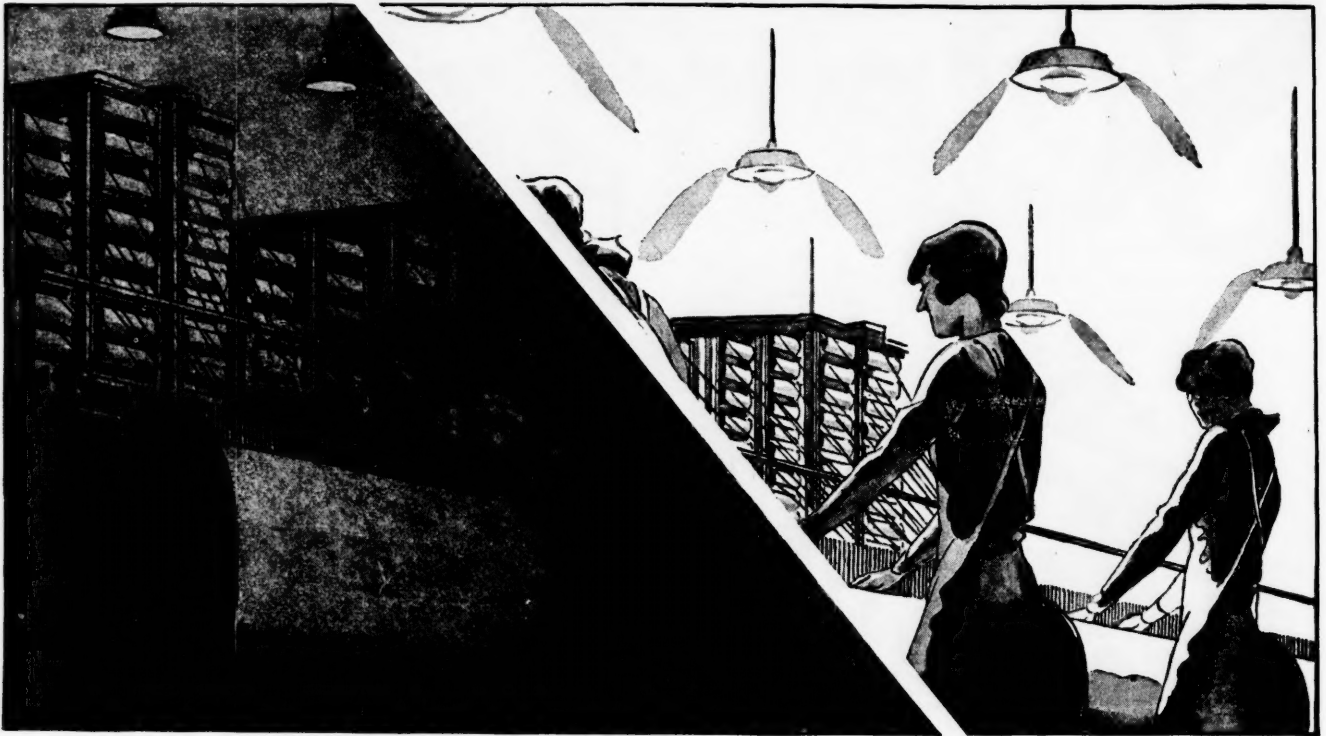
James B. Clow & Sons
Chicago, Illinois

National Cast Iron Pipe Co.
Birmingham, Alabama

CLOW-NATIONAL
CAST IRON PIPE
EVERYTHING FOR
A PIPE SYSTEM

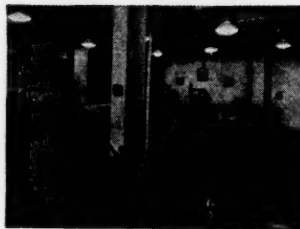
*Twilight Zone** **LOSSES...**

AN UNSEEN ITEM IN FACTORY OVERHEAD



Even the most careful cost analysis may often fail to show the true reason for excessive overhead in factory operation. For, in thousands of American factories, there is an unseen cost item that is never entered on the books.

*Twilight Zone** lighting is the unsuspected stumbling block to efficiency in every department. Its deceptive half-light seems sufficient, but actually, it positively prevents either visual or manual accuracy. Office errors run unreasonably high... spoilage of material becomes excessive... accidents and labor troubles multiply.



In the Westinghouse Lighting Institute

A fully-equipped factory demonstrates correct illumination for modern industrial plants.

Open to visitors

Daily 9 to 5... Saturday 9 to 12
7th Floor, Grand Central Palace
New York City

... around the corner from your hotel.

If your present costs are unsatisfactory, why not test your plant for *Twilight Zone*? Lighting Specialists of your local light and power company or the Westinghouse organization are always ready to assist you in detecting and eliminating this unnecessary source of loss.

Out of the Twilight Zone

An instructive book, "The Way Out Of The *Twilight Zone*" will be sent to anyone interested in cutting costs with light. Write Westinghouse Lamp Company, Department 203, 150 Broadway, New York, N. Y.

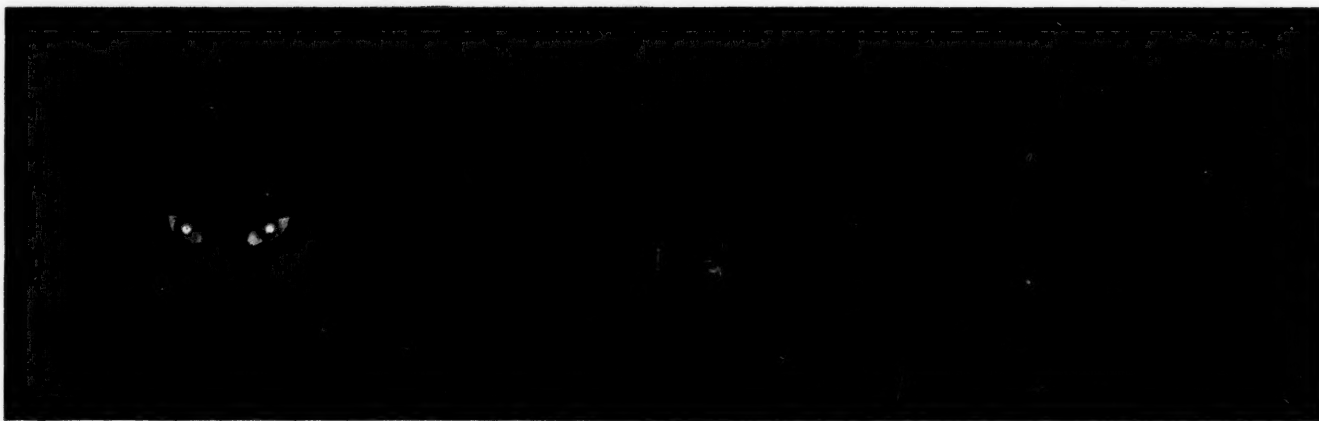
**The deceptive half-light between obvious darkness and adequate illumination.*

CONSULT A LIGHTING SPECIALIST ON YOUR LIGHTING PROBLEMS



Westinghouse





How does a cat see ... *in the dark?*

The probable optical principle by which a cat sees is a principle which helps to explain why human eyes see more sharply and clearly by Cooper Hewitt light.

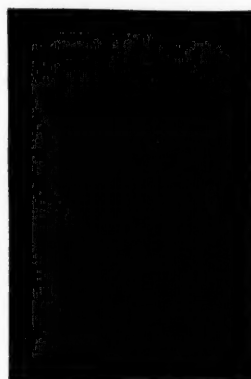
All scientific observations of the cat so far made, tend to prove that it is totally color-blind. If this is so, it means that the cat's eye filters out all the rainbow colors of which "white" light is composed, except the particular color (or restricted group of spectral light rays) by which the cat sees. And that the cat sees quickly and sharply—even small objects in the dark—though not, of course, in complete absence of light—is common knowledge based on common observation.

Under Cooper Hewitt light, your eyes see more sharply and clearly because it is composed *almost wholly* of the cool yellow-green rays—a restricted group of spectral rays by which, science says, human eyes see best. The reason is this:

Your eyes cannot bring all the colors which make up "white" light to a focus on the retina. If focused for a color at one end of the spectrum, colors at the other end would be out of focus. So, the fewer the colors of which a light is made, the less will be the confusion of out-of-focus colors when light enters the eye and registers in images on the retina. Nearly of the same wavelength, the yellow-green rays of Cooper Hewitt light focus on the retina virtually as one.

For full information about Cooper Hewitt light write for booklet, "Why Cooper Hewitt Light is Better than Daylight." General Electric Vapor Lamp Company, Hoboken, N. J.

GENERAL  ELECTRIC
VAPOR LAMP COMPANY



Science says the cool yellow and green rays of the spectrum are the rays by which we see best. The spectrum of Cooper Hewitt light is composed of over 90% yellow-green rays. This accounts for its remarkable seeing power and explains why workers in industrial plants, for which it is exclusively intended, say that Cooper Hewitt light is "Better than Daylight."

Blue and violet, which have comparatively little seeing power, comprise less than 10% of Cooper Hewitt light.

(See next page)

Truth is never afraid to lay all its cards on the table



Increasingly, manufacturers realize that the most convincing word for any product comes from the product itself. When that is so, they are eager to put that product into the prospective buyer's hands, without obligation to buy, and let it speak for itself.



The General Electric Vapor Lamp Company has followed this policy with Cooper Hewitt light for years. And our knowledge, based on experience, that Cooper Hewitt light decreases spoilage, increases production and promotes factory efficiency generally, is invariably corroborated by a trial installation. A few Cooper Hewitt lamps, given a few weeks' try-out in an industrial plant, are followed almost always by a complete equipment of Cooper Hewitts. For the advantages of this soft, cool, glareless light are instantly obvious, creating a desire for similarly improved seeing conditions throughout a factory.



BETTER THAN DAYLIGHT

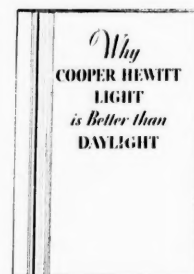
Take one example: back in 1927 one important manufacturer of airplane and automotive parts put in four Cooper Hewitt lamps for a 30-day trial. After only a few days he realized their unusual advantages and ordered 62 more! By early 1928 he had built an addition to his factory and installed 98 more Cooper Hewitts! Then followed, later in the same year, an order for 230 additional lamps! Today there are 394 Cooper Hewitt mercury-vapor lamps in this factory, making vision sharp and clear for every worker and inspector.



And this factory, mind you, is of the modern, monitor-type roof design. But Cooper Hewitt light is needed to improve the available daylight and to give "better than daylight" illumination 24 hours a day. Cooper Hewitt light is composed almost wholly of the best-seeing light rays known to science and therefore augments and blends perfectly with daylight.



MANY other advantages of Cooper Hewitt illumination are given in a simply written booklet "Why Cooper Hewitt light is better than daylight" which will be sent gladly upon request. General Electric Vapor Lamp Co., 819 Adams Street, Hoboken, N. J.



GENERAL  ELECTRIC
VAPOR LAMP COMPANY

(Formerly Cooper Hewitt Electric Company)



THE SHREWDEST BUYERS SEE GREATEST VALUE HERE

EVERY executive responsible for crane purchases should know about "Milwaukee" Electric Hoists . . . their ability to cut production costs . . . their moderate price . . . their outstanding features for which you pay no more!

These small hoists, traveling on an overhead monorail, handle loads from 1/4 to 10 tons . . . speedily, *safely* and at less cost. They pay for themselves quickly . . . and their application is almost universal.

At no extra cost you are offered push button control . . . roller bearings throughout . . . double drive hoist gearing . . . and other features that assure long service at lowest cost. The most exacting comparison proves that "Milwaukee" offers greatest value.

Thirty-five years of knowing how are built into "Milwaukee" Hoists . . . for they are guaranteed by P & H, world's largest builder of cranes and hoists.

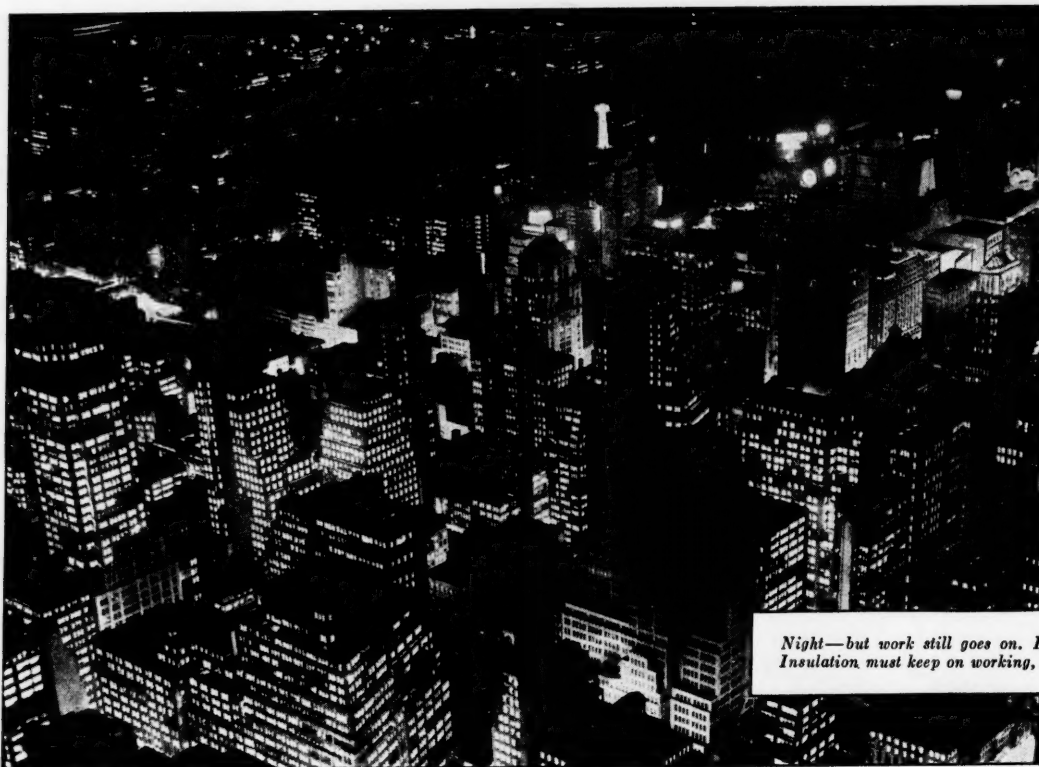
Get greater value for your hoist dollar . . . and cut production costs . . . with "Milwaukee" Hoists. May we send you a copy of Bulletin 202?

Traveling Cranes up to 300 Tons . . . Low Headroom Cranes 3 to 30 Tons . . . Single I-Beam Cranes 1/4 to 5 Tons . . . Monorail Hoist (all types) 1/4 to 10 Tons . . . Lumber Cranes . . . Bucket Cranes . . . Corduroy-Crawler Cranes . . . Gantry Cranes . . . Single Line Buckets.

Milwaukee Electric Crane & Hoist Division of
HARNISCHFEGER CORPORATION
4427 W. National Ave., Milwaukee, Wisconsin



MILWAUKEE



Night—but work still goes on. Roof Insulation must keep on working, too.

DO YOU GET KICKS FROM TOP-FLOOR TENANTS...

TENANTS are entitled to comfort—even if they

occupy top-floor offices. And it is just as easy to provide this comfort at the top, if the roof is properly protected against temperature extremes.

This comfort for tenants is assured when you buy roof insulation that resists moisture. And exceptionally high resistance to moisture is one of the strongest recommendations for Temlok, Armstrong's new low-cost fibre insulation. So, it pro-

who want to work in comfort?

vides economical protection for your roof, since it maintains its insulating efficiency over a long period of time.

Armstrong's Temlok, fabricated from the heartwood of Southern pine, has low conductivity. It is also structurally strong, light in weight, rigid, and easily handled. It provides a strong, firm base for roofing.

We recommend Temlok in at

least the solid-inch thickness. Experience shows that at least this amount of insulation is needed for adequate roof protection. Temlok also is available, however, in the half-inch thickness to meet the requirements of those who wish to apply layers of half-inch insulating material.

We suggest that you send for samples and complete information about this low-cost insulation. Armstrong Cork & Insulation Company, 944 Concord Street, Lancaster, Pennsylvania.



Product

Armstrong's Temlok

Low-cost, Efficient Insulation for Roofs

SOLID 1"

LAMINATED 1"

LAMINATED 1½"

LAMINATED 2"

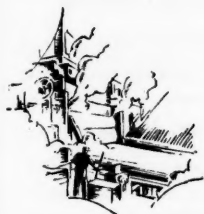


WORKABILITY

Characterizes

YOUNGSTOWN

SHEETS



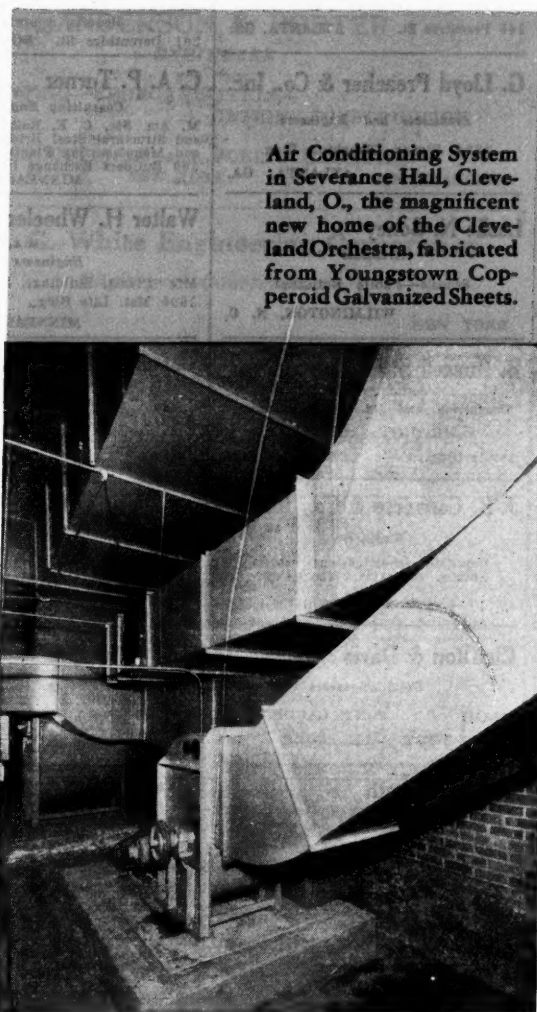
FABRICATORS of sheet steel products—men who work with sheet steel—are quick to appreciate the working qualities which distinguish Youngstown steel sheets from ordinary steel sheets. The ease in their forming, stamping, drawing, seaming, pressing, bending and welding are instantly apparent to the experienced fabricator, and account for their widespread use in all types of sheet steel fabrication.

Youngstown products are distributed by leading jobbers everywhere. If you would like more complete information on Youngstown steel sheets or if you are faced with sheet steel problems, write to any of the offices listed below or direct to—

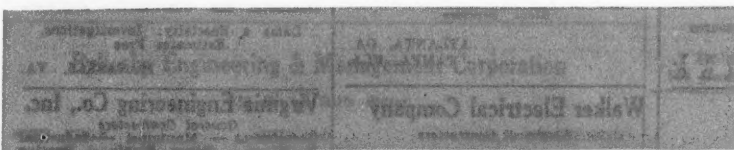
THE YOUNGSTOWN SHEET AND TUBE CO.

One of the oldest manufacturers of copper-steel, under the well-known and established trade name "Copperoid"

General Offices: YOUNGSTOWN, OHIO

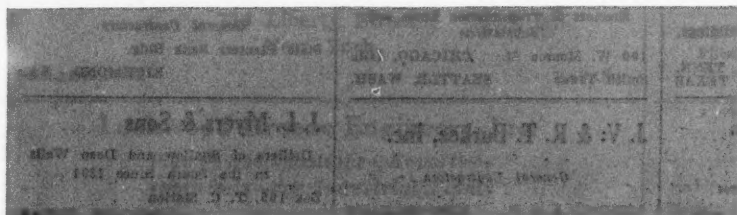


Air Conditioning System in Severance Hall, Cleveland, O., the magnificent new home of the Cleveland Orchestra, fabricated from Youngstown Copperoid Galvanized Sheets.



YOUNGSTOWN

GALVANIZED SHEETS PROTECT • SAVE WITH STEEL



District Sales Offices:

ATLANTA • • • Healey Building	NEW ORLEANS • • • Hibernia Building
BOSTON • • • • • Chamber of Commerce Building	NEW YORK • 30 Church Street
BUFFALO • Liberty Bank Bldg.	Hudson Terminal Building
CHICAGO • • Conway Building	PHILADELPHIA • • • Franklin Trust Building
CINCINNATI • • • Union Trust Building	PITTSBURGH • • • Oliver Bldg.
CLEVELAND • Terminal Tower Building	SAN FRANCISCO • • • 55 New Montgomery Street
DALLAS • • • Magnolia Building	SEATTLE • • • Central Building
DENVER • Continental Oil Bldg.	ST. LOUIS • • • Louderman Bldg.
DETROIT • • • • Fisher Building	YOUNGSTOWN • Stambaugh Building
KANSAS CITY, MO. • • Commerce Building	
LOS ANGELES • 3000 Santa Fe Avenue	
MEMPHIS • • • 42 Keel Avenue	
MINNEAPOLIS • Andrus Bldg.	

LONDON REPRESENTATIVE:

The Youngstown Steel Products Company, Dashwood House, Old Broad Street, London, E. C. Eng.

DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

Milburn, Heister & Co.

Architects

WASHINGTON, D. C.

Wm. J. J. Chase, A. I. A.

Architect

Public and Commercial Buildings
140 Peachtree St. ATLANTA, GA.

G. Lloyd Preacher & Co., Inc.

Architects and Engineers

1204 Wynne Claughton Bldg.
ATLANTA, GA.

Leslie N. Boney

Architect

Schools—Public Buildings
WILMINGTON, N. C.

B. Russell Shaw Co.

INCORPORATED

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Vol. XCIX No. 16 }
Weekly }

BALTIMORE, APRIL 16, 1931

{ Single Copies, 20 Cents.
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Factors in Profitable Forestation

FORESTRY conferences slated for Florida, at Marianna April 17-18, and for Georgia at Albany May 20-21, present to the South a subject of great importance from more than one angle. Production of raw material, production of manufactured articles and utilization of marginal land and unused acreage are the three outstanding points, but actually these form only a trio in a large number of direct and collateral possibilities.

Of these three major items, manufacturing may be regarded as of first consideration. Emphasis on the importance of raw material supply must not be diminished, but much of the stress which now is laid on supply may well be applied to manufacturing.

To say that the South turns out about half of the national lumber and timber manufactures, in value, is gratifying. But this by no means should obscure the fact that this general industry in the South is susceptible to tremendous increase. The national demand for lumber and timber products in 1929 was 36,870,000,000 board feet, and the South turned out in 1929 over 17,400,000,000 board feet. Into this difference of 19,000,000,000 board feet the South can make great inroads. In 1929 the South supplied 5,100,000,000 board feet, 72 per cent of the country's hardwood; and 12,360,000,000 board feet, or 41 per cent of the softwood produced.

The Southern varieties of timber are especially adapted to a wide range of uses and products. Furniture manufacturers in the South are producing about \$150,000,000 in such goods each year, out of \$780,000,000 of wooden furniture made in the entire country—indicating, incidentally, that there still is a wide field to be cultivated by Southern producers.

The paper manufacturing industry is headed South, because of the supply and the reasonable price of pulpwood. Almost half a hundred paper mills now are operating in the South, with capacity of 1,000,000 tons a year, and prospects are bright for general migration to this section from other areas. Gum turpentine and rosin production in the South runs to about \$40,000,000 a year. Wood-preserving plants and auto-

mobile-body builders are two others in the wide variety of the Southern wood-using industries.

No industrial field in the South opens more attractive opportunity for profitable development than woodworking. Raw material, waterpower and fuel, transportation and labor are at hand. Millions of dollars are invested in such industries in the South, with an annual output of about \$600,000,000.

The South has more than 200,000,000 forest acres and it has a much greater potential forest area if all the marginal land were turned to tree growing. Such eastern hardwoods as oak, chestnut, red gum, hickory, yellow poplar and so on show a standing of more than 200,000,000,000 board feet in the South Atlantic and East Gulf States and lower Mississippi.

Standing saw timber of eastern softwoods in the same area totals over 285,000,000,000 board feet and includes Southern yellow pine, hemlock, cypress, white and Norway pine and similar woods. The merchantable pine stand in the South is estimated at 250,000,000,000 board feet. In the aggregate, the South has more than 600,000,000,000 feet of standing saw timber.

Magnificent as this Southern supply is, however, it is none too great for the potential demand. As wider and wider uses for wood are developed by the industrialist and the chemist, and as more and more wood using plants arise in the South in local enterprises or as newcomers from other sections, the South must turn its thought to both maintenance and future increase of supply. Herein may be found "farm relief" truly practical and profitable in its nature. Timber at present prices is not a crop as profitable as it well might be made. There is little incentive for the forester or the farmer to cultivate potential timber acreage under present taxation methods. The value will increase proportionately to increase in demand, as is inevitable under economic law, and the State will proportionately benefit in the end. Thousands of unprofitable acres now planted to cotton or other crops, largely because of tradition or habit, can be devoted with profit to crops of trees. In some

countries, notably in France, forestry has been transformed into a sort of glorified farming. More than one great corporation in the South has turned to tree-growing as a crop operation.

"A forest that will more than pay its way from naval stores production after reaching nine inches in diameter, and then yield its full return as timber, after attaining proper size, has to be recognized as an attractive investment," said S. J. Hall of Jacksonville in the MANUFACTURERS RECORD, describing forestation by the James D. Lacey Company.

One of the first steps in pine forest management is to protect the property from fire, and so to preserve millions of seedlings which spring up after good seed crops. Thinning of over-stocked stands is one of the most profitable forestry measures and assures a stand of trees for turpentine within 12 or 15 years after the operation. Planting of seedlings is practiced in barren areas. Equally simple are the fundamental forestry requirements for other woods than pine.

So it is that the coming conferences will find the general subject of Forestry composed of many factors. Equally important is the topic of consumption, without which, developed to the utmost, production will not be fully profitable. Nor would it profit the South in full measure to manufacture woods from other sections into finished products. Southern production and consumption should balance, and both will be promoted by demand.

Perchance, in the last analysis, ways and means to inspire demand for wood manufactures will be found the strongest stimulant for reforestation in the South.

Practical Unemployment Prevention

INDUSTRIAL cooperation in Moultrie, Ga., and in Colquitt county, of which Moultrie is the county seat, is credited by Professor James E. Boyle of Cornell University with carrying that area "unscathed from the crisis facing all other cities of the nation." Industrial plants manufacturing a wide range of products and using much material from the farms were established in the city, furnishing work for urban artisans and employing the 30,000 rural residents either directly or indirectly.

"This cooperation between the farmers and business men is far better than any form of government relief," Professor Boyle comments. "These men are right on the ground; they know more about the problem than the government would; they have more direct financial and civic interest in the problem than the government has; they waste less and get bigger results."

Not the least valuable phase of this achievement is the prospect that many such new industries will become permanent factors, rather than artificial or temporary employment expedients. Most valuable is the preservation of the self-respect of the people as workers, rather than as beneficiaries of any form of governmental dole.

Buy American Products

LAST year we imported \$3,061,000,000 worth of commodities manufactured or grown in foreign countries. With the exception of rubber, coffee, other products of tropical origin, and a few specialties, we can produce within our own borders more than we can consume. American industry which has been affected by this foreign competition could have supplied these goods for domestic consumption, given greater opportunity for employment of our people and helped to stabilize business in the United States.

American workers could have turned out practically all of the \$35,000,000 of sawmill products imported, \$43,000,000 of cotton goods, \$146,000,000 of paper, \$145,000,000 of petroleum, \$200,000,000 of metallic minerals and metals, \$18,000,000 of clays and clay products, \$6,000,000 of coal, \$100,000,000 of chemicals and fertilizer, \$30,000,000 of machinery and vehicles, over \$300,000,000 of animals and animal products, \$260,000,000 of vegetable food products, \$46,000,000 of tobacco and many more commodities which have been brought into this country in recent months in direct competition with American producers. In the business depression through which we have been passing our first duty should be to stimulate home industry by buying at home the commodities that can be produced in quality and quantity to meet our needs.

Growth of Processed Foods

EXTENSION of gas and electric service into the rural regions of the South offers the farmers an opportunity to diversify their operations and take advantage of the noticeable consumer preference for packaged and processed foods, instead of buying raw products. Gas and electricity are not applicable to all farming as now practiced, but, as pointed out by the Director of the Illinois Department of Agriculture, they offer the agricultural industry the opportunity to process products for market at their source.

Without a doubt farming is becoming more and more a manufacturing problem. In the past two or three years the development of the use of products of the farm heretofore wasted is a trend that should cause agricultural producers to change their marketing plans and, in many instances, production methods, if they are to take advantage of their opportunity.

As a recent market news letter of the Agricultural Extension Service of Louisiana points out, the public is turning to frozen, preserved and canned fruit, and even the juices of fruits and vegetables are being widely marketed in a canned or frozen state. In order to sell their honey, some producers are manufacturing honey jelly and syrup. Demand for farm packed meats, poultry and dairy products is growing, and quick-frozen choice cuts of meat are packaged and sold direct to the consumer.

The trend in consumer demand from raw products

to processed foods is bound to affect the farmer, and those fortunate in being located on power lines should seek the counsel of the agricultural departments of power companies and the county agents.

Detrimental to Private Business and Education

A POPULAR periodical, in a recent issue, published a cartoon depicting Uncle Sam as beset by a lot of grotesque urchins who were begging him to help them with various things. He protests with the remark that he is not the papa of the family, but only the uncle. The objects urged upon him represented government operation of a great variety of activities and Uncle Sam was being asked to take them over. It is a timely caricature of tendencies that are cropping out not only in Washington, but in many state capitals, the desire to have the government take over the operation of activities that belong solely to private industry and private ownership.

One of the latest moves in this direction is the reported suggestion of the Textbook Commission of the State of Tennessee that advertising be admitted to school books. "Advertising revenue would probably pay for some of the cheaper books in full, provided the printing is done at the Industrial School," is the suggestion made, with the restriction that "the advertising would have to be censored closely, but food products, clothing, household articles, toys, sporting goods, colleges 'and many other things' could be 'properly put before the students.'"

The State of Tennessee has a State Industrial School printing plant at Nashville, and the Free Textbook Commission, which was created in 1929, proposes that all elementary books be printed at the state plant. It is estimated that the institution can do the work "at approximately one-half the present cost." An important recommendation which may have far-reaching effect is that the school book commission "be directed to adopt no book for elementary grades that cannot be procured for state printing."

Therein lies one of the drawbacks to such a proposal. Many school text books are copyrighted and their ownership is held by reputable publishing houses which are contributing their part toward the upkeep of the government through the taxes they pay and through the taxes the employes of these publishing houses pay. There would be the added evil of having the state—in using only books printed by the state—secure not what is best but what is obtainable. Hasn't business been depressed enough without the state entering into competition with private enterprise?

Such a course, if adopted by the states, would be even worse than the subsidized papers put out by some business organizations which accept paid advertisements in direct competition with private printing and publishing companies, some of whom are members of the organizations and help to support them.

Shortsighted Discrimination

SHORTSIGHTED and harmful legislation which discriminates against the products of other states has been enacted in some of the grain and dairy states of the West and more has been proposed. We refer to the placing of a prohibitive tax on vegetable shortening, evidently directed against cottonseed oil, a major industry of the South.

About 1,500,000,000 pounds of cottonseed oil, valued at more than \$100,000,000, was produced in the South last year. Eighty per cent of this oil is sold throughout the world for human consumption in the form of vegetable shortening, such as lard compounds and substitutes, also for cooking oil, salad oil and for setting olives and packing sardines.

Experts declare that refined cottonseed oil, being a vegetable product, is the purest of food fats. It cannot be on this score then that certain Western states have discriminated against the use of cottonseed oil and its food compounds. It seems to be a move to keep out all vegetable shortening that competes with hog lard and dairy products.

South Dakota has levied a tax of five cents a pound on vegetable shortening. Wisconsin is proposing a similar tax bill, while one in North Dakota was defeated and one in Iowa postponed. Ohio and Illinois have proposed to prohibit the use of vegetable shortening in state institutions.

It is not easy to believe that sectional discrimination is intended by any state or group of states in these enlightened days. Is it a wise businesslike move that will help the farmers of the West? It is a precedent at any rate that erects a tariff barrier against an important product of other states.

The South is the largest buyer of grain, meat and dairy products from those states of the West which are proposing legislation that would prohibit the South selling its vegetable shortening to them. Might not the Southern states with equal logic pass legislation levying a prohibitive tax on Western corn, butter, hog lard and meat, all of which it can produce in abundance?

The South buys more than \$2,000,000,000 of food and feedstuffs annually, much of it from Western farmers. Perhaps the South would be better off if it levied a prohibitive tax against outside food products, for it would then be forced to produce its own foodstuffs and bring about a much needed curtailment of cotton acreage. But, broadly speaking, would it be a wise move?

As the Memphis Commercial Appeal points out, the West has its grain, hogs and cows; it needs the Southern markets for its surplus products. The South needs also the Western markets for its cotton by-products. The problem of the West is Russian wheat, not Southern vegetable shortening. This is a poor time for the Western States to start an economic war.

Clarion Call *for* Leadership

AMERICAN trade associations should be reinforced. They should, at this time above all others, receive even greater moral and financial support. Most of them maintain efficient organizations and they should be equipped for more aggressive action. Industrial leadership must be mobilized and assert itself toward definite objectives. These objectives are and ever should be such as to win the confidence of the public, of labor and financial interests. With that program in hand, general business would inaugurate a healthy revival on a sound and substantial basis.

The possibilities for business success under proper direction and control are apparent to all wise executives. The question is, Will our industries recognize their opportunity and overcome an attitude of indifference that results in disorganized drifting?

The public is depending on our industrial leaders for improvement in business. The unemployed are anxiously awaiting an opportunity to return to work. Responsibility rests with trade organizations. Through their initiative, leadership can be mobilized. It is a time for industries to promote organized, intelligent leadership. It should be done, not alone for selfish business reasons, but also in recognition of the trust imposed by the public, including the workers in business managements.

Never was there a time when the important function of the trade organization has been so definitely demonstrated as at the present. Its stabilizing influences have been constantly at work during the period of depression and it has to a large extent prevented what might have been a far more serious situation. The results of its efforts have not always been of a definite nature, yet its contributions have been direct and effective. We have gone through the greatest economic depression in history, without an uprising or any violent social disturbance.

Those associations which have been guided by able counsel and efficient management have established records of outstanding merit. In such instances it will be found that programs were designed with emphasis on public interest. Standardization, reduction of costs, research and education have all contributed public benefits. Reduced prices, broader

By
CHARLES F. ABBOTT

Executive Director,
American Institute of Steel Construction

uses and service have been liberally donated to the public. The development of new applications and new markets has advanced stabilized employment and produced the profits that have maintained wage scales. These good results are especially apparent in this period of stress that has sacrificed capital gains.

Under the leadership of trade associations we can depend upon and expect permanent industrial prosperity. An efficient association functions as the spokesman for its industry. It is ever on the alert to protect and promote the industry it represents. It preserves public welfare and forms an immediate contact between industry and the Government in times of emergency. It presents an organized front through organized leadership.

During the recent decline in business, the trade association has been subjected to a critical test. Some companies have been inclined to withdraw their support, in order to reduce their individual expenses. It is such shortsighted attitudes that have invited criticism of failure to assert industrial leadership. It has been largely responsible for the drifting attitude toward the real responsibilities of our industries. This is no time to retire or withhold support. It is folly for anyone to believe that individuals can prosper at the expense of their industry. The interests of each are so closely related that one depends upon the other. Those who withhold support are actually preventing the progress that they, themselves, are most concerned in.

The elimination of unethical practices, the clearing away of the unfair methods that retard profitable operation, represents another responsibility of the trade association. Any hesitation is merely to invite some form of governmental regulation or control of business. Public interest expects and demands of industry that it clear away all the difficulties that impair reasonable profits. It is on profits that stockholders depend for a fair return upon their investments. Labor

likewise has an interest, for on profits depends the maintenance of wage scales and permanent employment. Industrial efficiency depends upon organized cooperative effort that is made possible only through the trade association.

Business revival has been awaiting industrial leadership that should be promoted by the trade association. Problems of an economic nature are so complex that industry must assert itself, recognize its full responsibility, chart the course and supply the pilots. No harbor is ever reached by merely drifting. We cannot depend upon success that comes of chance or good luck.

\$1,300,000 Pipe Line

San Angelo, Tex.—Construction has started on a 120-mile pipe line from San Angelo to Girvin, which is being built by the Peoples Light and Power Company, New York, for the Texas Public Service Company, Austin, a subsidiary. The line will consist of 43 miles of 8-inch Dresser coupled line from Texon to Girvin and 77 miles of 12-inch line from Texon to San Angelo, involving a cost of about \$1,300,000. Due to the high pressure of the gas, it is said no compressor stations will be required. The western branch of the line is being built to serve the Pecos Valley Power & Light Company's steam plant at Girvin on the Pecos River, while the eastern branch will augment the company's present supply and serve the San Angelo steam plant of the Southwest Texas Utilities Company. Construction is being handled by the Trojan Engineering Corporation, a subsidiary of the Peoples Light and Power Corp.

Bids on \$500,000 Dormitories

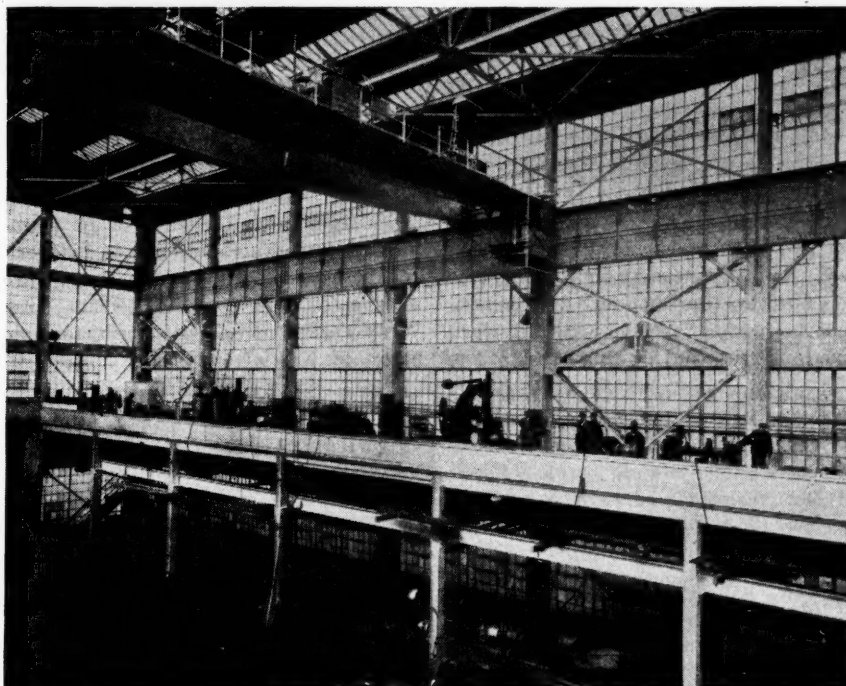
Baton Rouge, La.—Bids will be opened April 27 by the Board of Supervisors of the Louisiana State University and Agricultural College for construction of a group of dormitories to cost about \$500,000. Bids are invited on the general contract, mechanical equipment, electrical equipment and miscellaneous items. Weiss, Dreyfous & Seiferth, Inc., New Orleans, are the architects and Wogan & Bernard, Baton Rouge, associate architects.

Hand, Head and Heart

in

Apprentice Training

By
G. GUY VIA
Supervisor of Training,
Newport News Shipbuilding & Dry Dock
Company



Machine Shop Apprentice Group

THE Apprentices of the Newport News Shipbuilding and Dry Dock Company need no introduction to the citizens of Newport News. For years,

their athletic teams have been among the leading exponents of clean sportsmanship in the city and, literally, tens of thousands of citizens have cheered

them in their efforts at football, baseball and basketball. Not so well known in general, however, is the story of their daily activities in helping to build good ships, which is a far more substantial contribution to society than is properly realized.

Apprenticeship has been an institution in the Yard from its establishment, and more than 2000 youths have enjoyed this industrial opportunity since 1889. Today most of these men are to be found in every corner of the globe and on the Seven Seas designing ships, building ships, operating ships and managing shipping, while the others have entered other useful industrial pursuits more or less allied to moving the world's commerce. Apprenticeship is the solid foundation of each of these careers, and President Homer L. Ferguson of the Newport News company always has believed that every boy "deserves a chance," and has demonstrated in substantial manner his faith in young manhood.

A well-balanced training program covers the Hand, the Head and the Heart, and adequate provision must be made for the development of each. The Hand of the learner must be trained to do, the Head to think, and the Heart to feel; and the program must address itself to each in turn. At Newport News a staff of 27 carefully chosen and care-



Large
Iron
Casting
Moulded
by
Foundry
Apprentices

fully trained instructors devote full time to the manual, mental and moral development of 240 apprentices in 22 crafts. The supervisor and his staff interview the applicants, select the candidates for apprenticeship, train them in the shops, educate them in the apprentice school, keep all training records, supervise their extraneous activities and, in fact, take complete charge of the boy during his training period. The production supervisors, foremen and superintendents, show a very fine spirit of cooperation in providing suitable jobs for the boys.

The cost of training the boy during the first two years is borne by the management, and the departmental budget is increased by this amount; the department is further credited with all work done by the boy during this period. The

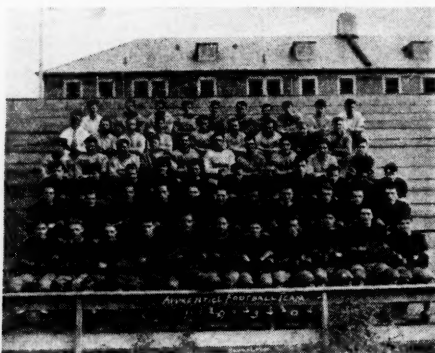
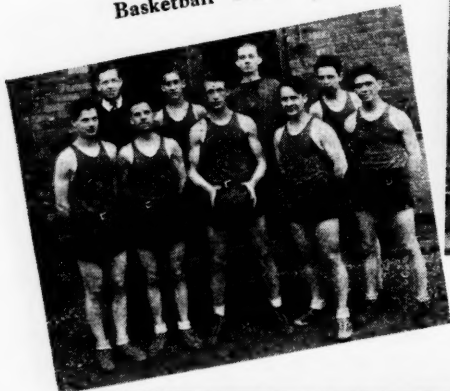
last two years are spent by the boy in the shop on actual production work and under the regular production supervisors, gaining experience. His training by then will have been completed, and speed and judgment only are lacking.

Instructors are carefully chosen from among the most skillful and intelligent craftsmen in the shop, and are first brought to an understanding of the four standard steps in teaching, the Herbartian steps: (1) Preparation; (2) Presentation; (3) Application, and (4) Testing. They become acquainted with interest factors and their use in maintaining the learner's interest in his work at a high pitch. Thus equipped, they are sent into the shops on their jobs. Weekly, thereafter, they meet for two hours in a study of some subject di-

rectly pertaining to their work, and also meet monthly for an entire evening devoted to more practical phases of their jobs.

Great care is exercised in choosing the limited number of boys who may profit from this institution. The successful applicants must be morally, physically and mentally fit. All other considerations being equal, preference is shown sons of employees. A very careful study is made of each applicant's qualifications at the first interview, when he also is given certain tests devised to indicate mechanical aptitude, general intelligence, alertness, etc. If these prove satisfactory, his name is added to the list of applicants in waiting, from which list the most promising applicant is chosen whenever a vacancy occurs. Often a boy

Basketball Team



Football Team

Track Team



Shipyard Apprentice School of the Newport News Shipbuilding and Drydock Company

is given a job as a helper for six or eight weeks prior to acceptance, so that a further study of his fitness may be made. At present, there are more than 300 names on the waiting list.

Training is the process of developing through a series of progressive experiences an ability on the part of the learner to do something that he could not do before. This substitutes a series of "experiences" or jobs carefully graded in difficulty, a regular course of study as it were, for the miscellaneous small jobs arising out of production expediency which were not far removed from actual exploitation. To entrust an apprentice with a really worthwhile job was unheard of in the old days, and yet it was expected of him as a journeyman that he not only accept, but hold up his own in production on any job passing through the shop. The inconsistency of such a system is apparent.

A careful analysis of any craft will reveal two surprisingly simple facts which must underlie the projected "series of experiences," or course of study. In the first place, the mechanic performs very few fundamental operations, but these are spread over many variations of machines, or materials, or products, etc. For instance, the fundamental operations performed by the machinist are five in number, and he unconsciously passes from one to the other hundreds of times daily, without recognizing the divisions of effort; yet, these are the things he is paid to perform in an expert manner. The variations are readily distinguishable in a machine shop, and embrace 11 types of machine, beginning with the simplest to operate and extending through the most complex. The general plan of training, then, embraces teaching five fundamental processes in 11 variations. Each machine is next considered, in turn, to develop its possibilities, beginning as usual with the simplest possible operation and ending with the most involved and difficult.

The skilful instructor will give much thought to the manner in which he will lead up to the new lesson, the teaching



Apprentices in the Joiner Shop

step known as "Preparation"—preparing the learner's mind for the new subject. The more appropriate and striking the approach, the easier and more thorough the comprehension of the learner. In this step, it is often very desirable to explain the "why" of a process or operation in simple logical sequence of ideas. A careful approach in the hands of a competent instructor will greatly reduce learning time, as well as provide a never-to-be-forgotten story for the boy.

All that now remains is to select a number of jobs from regular production which exemplify the difficulties embraced in each of the classes, and append these "type jobs" to their respective lesson sheets. The longer the list of suitable type jobs for each lesson, the better, as a large variety will almost insure that a suitable job will be at hand when needed. The apprentice is kept in a given class of work until he becomes thoroughly proficient, but no longer.

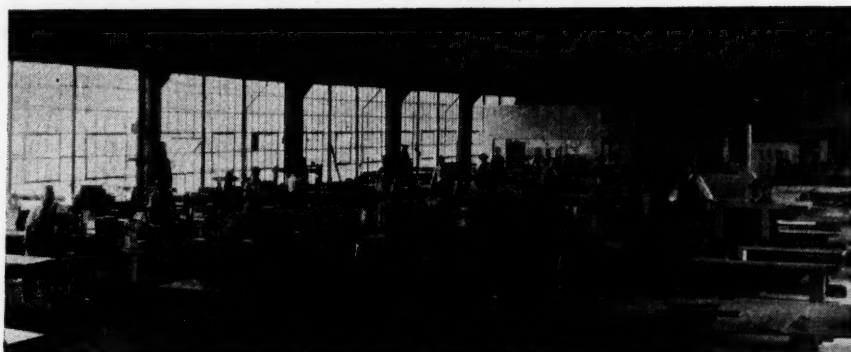
The shop is usually not a very satisfactory place for the average boy to concentrate on the mathematics, science, etc., in which he must needs be proficient to become really competent at his work. These classes are best arranged away from din and confusion, and there is a marked tendency to conduct them during working hours, rather than at night. At Newport, News, each boy is required to attend the Apprentice School classes six hours per week for a period of three years. Not only are these classes held during working hours, but the apprentice

receives his regular rate of pay as well while in attendance. Shop arithmetic, algebra, geometry, trigonometry, mechanics of materials, physics, English, industrial economics, shop sketching and mechanical drawing, with numerous problems and illustrations taken from regular Yard practice, afford a wide field for educational endeavor, and the required passing grade of 60 per cent challenges the best efforts of each student. A recently remodelled brick building has been entirely devoted to the needs of the Apprentice School.

The school is open all day, and classes are in session from 9 A. M. to 4 P. M. The faculty is composed of carefully chosen college graduates, each a specialist in his field, who not only teach, but also direct and supervise many extraneous activities as well. The Apprentice School is one of the busiest spots in the Yard, and it is proper that it should be. Sloth is no aid in developing the Head of young America!

The Heart is reached in many subtle ways. In the first place, it has been found that the complete segregation of the apprentices in the various crafts under the leadership of the shop instructors tended to elevate the morals of the group, and also placed them on a competitive basis with the journeymen. An Apprentice greatly relishes bettering a craftsman's record, and competition among the learners themselves lends great zest to their endeavors. Accordingly, miniature shops completely equipped are being set up all over the Yard, dedicated to training purposes. The resulting increase in craft pride is most gratifying.

Apprentice athletics exert a tremendous influence over the boys. The company is not asked to provide funds for this program, but the Apprentices themselves take care of an annual budget of approximately \$10,000. A new athletic field, dedicated last September, was built by the boys themselves after work hours, under the leadership of their instructors, the company providing the land and material. The Apprentice Athletic Association borrowed \$3500 to in-



At Work in the Pattern Shop

stall flood lights, and has presented to the community a modern field, complete, even to radio broadcasting.

An Apprentice Honor Council of 10 members guards jealously the good name of Apprenticeship not only within the plant, but outside as well. Its recommendation in all matters of discipline is invariably accepted. The Honor Council has banned all sporadic shop initiations for new boys and conducts a well-regulated ceremonial on its own account, which is thoroughly enjoyed by everyone, including the initiates. The Honor Council has developed into a preventative institution, rather than punitive, and once again faith in boyhood is justified.

Habits of thrift are fostered through an Apprentice Savings Club, which has accomplished much in this direction. Many a young mechanic owes his financial start to this institution. An annual division of \$10,000 would indicate that apprentices can and do save, a prime step in good citizenship. Much of this money is reinvested in the Save-the-Savings Club at 5 per cent as a nest egg for eventual financial independence. To this nest egg is added a bonus of \$100 which the company gives each Apprentice upon the completion of his course, which substantially increases the boy's financial stake at the threshold of manhood.

An active Alumni Association of 200 members bridges the gap between apprentice and journeyman and lends encouragement from many angles. Once an Apprentice, always an Apprentice.

What an easy way to solve the sometimes difficult relations between management and worker, when years of close association and understanding have built up such mutual confidence and respect. Unworthy notions and false doctrines find it difficult to survive in an atmosphere where the idea of square-dealing is ever paramount. A clean Heart always characterizes a man of honor.

Hand, Head and Heart—the three great objectives in training. Due attention to these three can but result in proven skill, tested knowledge, genuine friendship, sincere respect and last but not least, substantial citizenship.

Varnishes From Sugar

Processes for making a series of new varnishes from ordinary table sugar were announced at the meeting of the American Chemical Society by Professor Montgomery of the University of Alabama. As evolved by chemists at the university, the varnishes are made by producing resins from the combination of certain sugars with aniline and dissolving the resin in acetone.

Textile Mills Ask Fair Play

Atlanta, Ga., April 11.

Protest against a proposed increase of 25 per cent in railroad freight rates on cotton factory products from the Southeast was voiced on behalf of the textile mills in this area by W. D. Anderson, Sr., at the annual meeting of the Cotton Manufacturers Association of Georgia, which closed here this week. Mr. Anderson, who is president of the Bibb Manufacturing Company, spoke as chairman of a joint traffic committee of the cotton mills of Georgia and Alabama, named to combat the increase.

First attributing the proposed increase to railroads in New England, and asserting that they imperilled the South's "rightful supremacy" in cotton textile manufacturing, Mr. Anderson continued:

"The burden of these increased rates, amounting to approximately \$250,000 annually, will fall most heavily on the mills of Georgia and Alabama, most of whose goods are shipped into the territory around Chicago, Detroit and Akron, because the new rates to that territory from the South will be on a much higher level than the rates from New England mills to those markets, though the distance from the South is less. Until a few months ago, the mills and railroads of the South were able to resist repeated efforts that Northern and Eastern railroads have made during the past 10 years to force the Southern railroads to raise their rates. Then the railroads of New England voluntarily reduced their freight rates on cotton factory products shipped from New England mills to the important consuming territory north of the Ohio and Potomac rivers, these new rates being much lower than the level of the rates from the South to that territory."

"The present situation," said Mr. Anderson, "is that the rates from New England mills have been voluntarily lowered, while the rates from the South are to be raised, the strategy of the move being to force the Southern railroads to install 'class' rates much higher than the present rates, so that the Northern and Eastern railroads can then increase their present rates; but when the final adjustment is completed, New England mills will have much lower rates to the important markets than the rates applying from the Southern mills, so that the South will be placed at a distinct disadvantage."

Through a series of conferences with a

committee of traffic men representing the mills of New England, an agreement has been reached on a revised schedule of rates that will meet the requirements of the Interstate Commerce Commission, and which it is hoped will be acceptable to the railroads of the two sections. These new rates will place the Southern and New England mills on a parity, mileage considered, in the important consuming markets, although they will effect a slight increase in the rates from the South.

Although the railroads of the South would get the major portion of the increased revenue under the higher rates proposed by the Northern carriers, it is considered to their interest to cooperate with the mills whose products form the bulk of the freight moving out of this territory. Many Georgia and Alabama mills are already shipping much of their goods by motor truck to the Southern markets and there is a steadily increasing movement of their products by truck to the markets in the Middle West, the North and the East. If rail freight rates are kept at a reasonable level, the mills prefer to give their business to the railroads, because of their large investment in property and equipment, Mr. Anderson says.

Drastic cuts in wage scales are being effected in New England and property assessments and taxes are being reduced, it was stated at the meeting, and New England is working hard.

The convention was called to order by Mr. Jewell, as president of the association, and legislation, publicity and advertising were prominent topics for debate. Among the speakers were Eugene R. Black, Governor of the Federal Reserve Board at Atlanta; W. J. Vereen, Moultrie; Mr. Elsas, T. M. Forbes, secretary, Atlanta, and C. W. Cheers, traffic manager.

\$542,000 Officers' Quarters

Fort Benning, Ga.—Contract to erect 5 field officers' quarters and 51 company officers' quarters here has been awarded by the Constructing Quartermaster to Rogers & Levinthal, Chattanooga, Tenn., at \$542,600.

Wide Roads, Farm-to-Market, at Low Cost

WHAT a paradox! A country able to produce a surplus of all agricultural products, with prices at giveaway levels, so that the farmer is in distress, and yet with people in actual want in the cities. What is the trouble? The answer is, in my opinion—totally inadequate facilities for distribution. And bad roads are a very large factor in this situation.

In its presentation of the farm-to-market-road needs the American Farm Bureau Federation sets forth the following:

"Of the total farms in the United States, less than 500,000 are on surfaced roads which are useable every day in the year. Two and three-quarter million farmers are located on unimproved dirt roads, while approximately two million have roads on which a little work has been done. This figure finally comes down to a point where less than five per cent of the farmers of the United States have access to roads they can rely on using any day and every day, and yet we say we have a fine system of roads."

Dr. Guitteau, U. S. Internal Revenue Collector at Toledo, Ohio, and a man of long experience with tax problems, in a recent address made the following statement:

"I believe that as a people, we are spending today for public purposes more of our income than is wise or prudent. . . . Today, all our governments—national, state and local—spend thirteen and one-half billions of dollars each year . . .

By

BERNARD E. GRAY,

Highway Engineer, The Asphalt Institute,
New York.

and thus nearly one seventh of our entire income is devoted to public expenditures . . . Twenty years ago government spent one fourteenth of our national income. Today it spends one seventh, and if the annual increase continues, it will soon be spending one fifth. Can we devote twenty per cent of our income to public expenditures? In other words, can we pay out one-fifth of our annual income for taxes? No nation has ever been able to do this and survive as a nation."

The National Safety Council in its proceedings for 1924, page 23, entitled "Roadway Width," which report was based on long and thorough studies of traffic conditions, has the following to say: "The roadway of every improved rural highway should be wide enough for at least two lines of traffic." In the National Safety News of June, 1924, page 26, H. M. Brown, General Manager of the Chicago Motor Club, says: "Going off the pavement on a country road may mean an overturned car and tragedy." These same principles of safety have been reiterated again and again.

It is obvious that to prevent going off the pavement, the roadway must be of

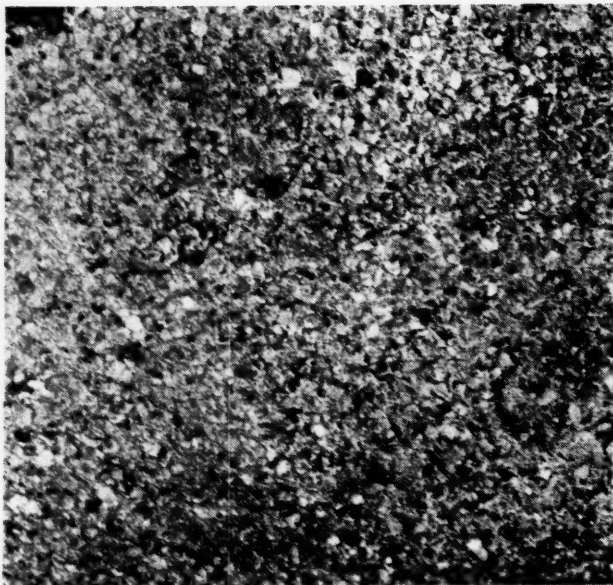
sufficient width to permit the easy passing of two lines of traffic. It is self-evident that the problem of the proper improvement of rural roads has not been met. How can any betterment come out of this seemingly impossible situation? There is but one answer—more miles of improved roads for less money. The sooner the American public understands this situation and appreciates the fact that wide, safe, mudless, dustless, non-skid roads, good the whole year around, can be obtained at low cost per mile, the sooner will the country have a real highway transportation system which will serve all of the people all of the time.

Low Cost Roads Through Full Use of Local Materials

What are low cost roads? They are roads surfaced with topsoil, sand-clay, shale, chert, cinders, gravel, crushed stone or similar material so placed on properly graded and drained road-beds as to give year-round service. Such surfacing types permit the fullest utilization of local materials. Solid surfaces are provided immediately after the grading of a roadway, instead of waiting several months or years until subgrade settlement has taken place. Cumulative additions of material may be made in amounts just necessary to obtain thorough stabilization, thereby utilizing the



Surface Treated Sand-Clay Base With Hot Asphalt Seal Coat



Close-up
of
Surface
Treated
Sand
Clay
Road
in
Georgia

inherent subgrade values. The depth may be but two inches at one point and eight inches at another, since it is generally recognized that different sections of a road in its natural conditions have different degrees of support. Often a few hundred feet makes impassable a mile of otherwise fair road. By using varying depths of surfacing the most economical improvement is made and the entire road is brought up to a standard degree of usefulness.

During the past few years engineering research and science have developed inexpensive methods of treating these surfaces with asphalt so as to prevent dust and mud, reduce wear and roughness and, at the same time, give smooth, non-skid roadways over which motor vehicles may be operated at high speeds and with low costs. These treatments vary all the way from surfacing the natural earth itself, to layers of the granular materials thoroughly compacted and surfaced, or else mixed-in-place, and usually are less in total cost than the annual maintenance of the untreated highway. Furthermore, as traffic increases it is necessary to add only a small additional thickness. All preceding work is saved for further use. The work can be done by mechanical means quickly and accurately on half the roadway width at a time without inconvenience to the traveling public. At the same time employment is given to local labor in the preparation of materials.

Low Cost Asphalt Roads Classified

The various types of low cost asphalt roads may be classified broadly as follows:

- (1) Asphalt surface treatments on well-drained, graded earth roads

with a traffic capacity of 50 to 250 vehicles daily.

- (2) Asphalt surface treatments on gravel, crushed stone, cinders, slag, sand-clay and similar materials, which have been mixed with the natural earth to obtain greater stability and with a traffic capacity of 100 to 500 vehicles per day.
- (3) Asphalt surface treatments on gravel, crushed stone, slag or cinders where definite foundation support has been obtained greater than a six-inch compacted thickness and having a traffic capacity of 250 to 750 vehicles daily. Some surfaces of this type have successfully carried as high as 2,000 vehicles daily, especially where excellent subgrades existed.
- (4) Asphalt mixed-in-place surfaces on stabilized foundations previously described. Such surfaces provide increased structural strength and are used to smooth old surfaces which have settled unevenly under traffic but which

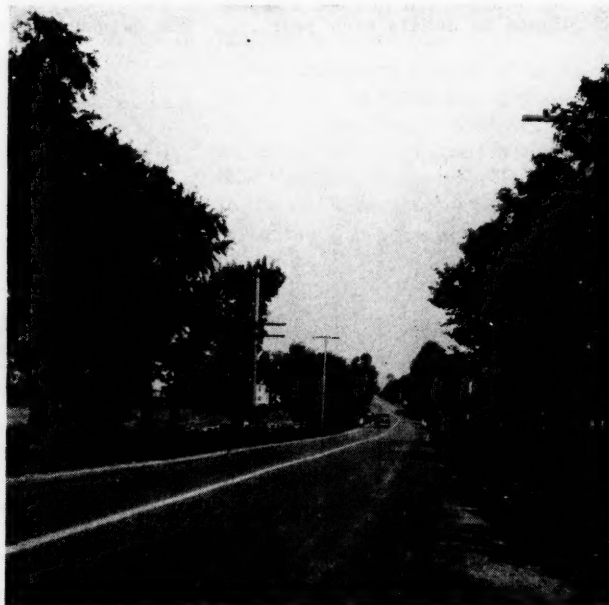
have become stabilized. When so smoothed they will give long and efficient service. The traffic capacity ranges from 500 to 2,000 vehicles daily.

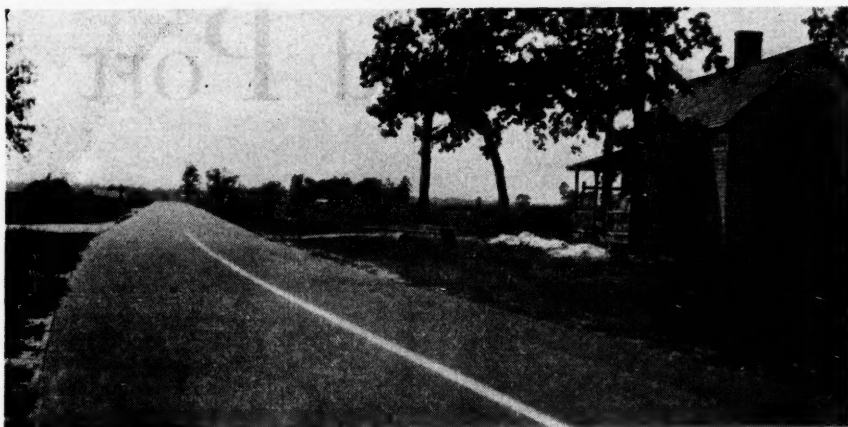
True low cost surfaces are wide, safe and non-skid in character. But let the actual records tell their own story.

The asphalt treated shale, top-soil and sand-clay roads of the Virginias and Carolinas are giving excellent service, with wide, safe, non-skid, year-round surfaces. In West Virginia, J. R. McDermott, district engineer, states: "Shale surfaces, carefully graded and drained, give extraordinarily easy riding and satisfactory highways for medium traffic. Bituminous treatments are made by several applications and the finished surface is achieved by dragging and blading. The cost of the original treatment is about \$1,000 per mile for an 18 to 20-foot width, with re-treatments required the second year and then much lighter applications at two or three-year intervals, averaging a total yearly cost of about \$300 per mile. Traffic averages 300 to 800 vehicles daily, although summer-peak travel frequently is as high as 1,200 to 1,500 daily." Taking an average of 500 vehicles daily, there is a cost of \$0.60 per vehicle per year, for a wide, safe road that is getting better all the time. Should traffic increase, the treated base becomes an excellent foundation for a thin asphalt macadam top, thus utilizing all previous investment.

A typical top-soil road in South Carolina is to be found on State Route No. 10, in Cherokee County. The total cost of grading, drainage structures and top-soil surface was \$4,473 per mile. By placing a bituminous wearing course at a cost of \$3,012 per mile, a year-round, mudless, dustless surface from 16 to 20 feet wide was obtained. These roads carry anywhere from 300 to 1,000 vehi-

A
Penetration
Macadam
on
Macadam
Base,
Which
Was
the
Original
Wearing
Surface
Years
Ago





Sand-Asphalt Surface on Natural Subgrade in North Carolina

les per day. Annual maintenance costs include occasional retreatments, with a small amount of patching. Costs per vehicle per year average about \$1.00.

Bituminous Surface Treatment Results in Florida

Many of the Southern states are fortunate in having fine deposits of lime-rock which make excellent surfaces when given bituminous treatments. The work in Florida is typical. H. C. Weathers, testing engineer, says: "The department has under maintenance, 1,907 miles of limerock base with bituminous mat surfacing. The average cost of maintenance

this year (1930) on this mileage was \$16.10, of which about \$4.10 was chargeable to surface and the balance to structures, guard rail, etc. It is the opinion of the writer and the other engineers with the State Road Department of Florida, that the surface treatment work in this state has given excellent results. The average cost of the carpet coat on both limerock and sand-clay bases is about \$2,200 per mile for a 20-foot-width surface. Traffic runs from 100 vehicles per day to as high as 2,000 on the heavier travelled projects. When this type first was laid it was the opinion of all concerned that resurfacing would be necessary every two or three years but, to

date, this has been unnecessary, as none of the projects have worn to where a retreatment is required." Taking the low average of 500 vehicles per day and assuming all costs to be current maintenance, there is, for four years, a total expenditure of \$2,216, a per-year cost of \$554, or a per-vehicle per-year cost of \$1.10.

Mechanical Equipment Factor in Reducing Road-Building Costs

With the greater use of low cost bituminous surfaces, there is coming a more rapid development of mechanical equipment for handling the operations. Within the near future it will be possible to place surfaces with premixed stone and bitumen, or surface treatments of various kinds, upon stabilized subgrades of one kind or another, both new and old, at rates of one, two and three miles per day of finished road surface, built under traffic and at costs which will be within the reach of every pocketbook. At such rates of operation it will be possible to let to contract single projects of 20 to 100 miles in length, thus affording a more attractive field to contractors utilizing modern equipment, scheduling shipments, handling aggregates by conveyor, with machine-spreading and finishing on the road surface and with almost overnight transformation of dusty or muddy roads into smooth, non-skid highways.

"Made in North Carolina"

Plans for a "Made in North Carolina" campaign, on the lines of a similar movement that proved successful last year, are announced by the Department of Conservation and Development at Raleigh, for the first week in June and the first week in September. In the June week, emphasis will be placed on wearing apparel, hosiery and piece goods, and in September on furniture, house furnishings and processed foods, with numerous other varieties of articles also to be shown each week.

The purpose is to let the people of the state know what is made in North Carolina; to show opportunities for further diversity in manufacturing, and to increase the sale of home-made goods within the state. The manufacturer and the merchant are the key men in the campaign, large and small stores will be enlisted, and merchants' associations, civic clubs, chambers of commerce, women's clubs and other organizations are to play appropriate parts.

Manufacturers will get in touch with

retailers handling their goods, or with jobbers who will be asked to push the products in North Carolina between now and June 1. Cooperative advertising will be made a feature, literature will be circulated, North Carolina labels will be placed on goods, and window cards and placards will be utilized to advance the movement.

\$1,000,000 Hospital Bonds

Jackson, Miss.—Bids will be opened April 30 by the State Bond Commission for the purchase of \$1,000,000 state bonds, the proceeds to be credited to the account of the State Insane Hospital Removal Commission to be used toward completion of the \$5,000,000 insane hospital project in Rankin County, near Jackson. These bonds were authorized by the 1930 Legislature and under the same authorization the commission has \$1,500,000 bonds still remaining to be sold. Twenty-six units of the building project have been completed and contracts were recently awarded for 11 additional buildings.

New Process for Storing Citrus Fruit

Howey-in-the-Hills, Fla.—W. J. Howey, developer of a 60,000-acre citrus tract here, is installing a new process for storing citrus fruits without refrigeration, designed to insure fresh fruit throughout the year. John F. Ruud, Atlanta, is credited with perfection of the process, which is to store citrus fruits in huge steel tanks so the air cannot touch them, and thus decay is prevented. Three tanks are now being fabricated by the Bird-Potts Co., Atlanta. Each will have a capacity of 1000 boxes of fruit. "Laboratory tests," says Mr. Howey, "have shown that fruit may thus be kept in prime condition for a period of six months. Now, if we can prove it on a large scale, and we will know this by August, this method may revolutionize distribution in the citrus industry. If successful, it will be of far-reaching benefit in stabilizing the industry, for it would require operation of packing plants practically 12 months in the year."

Augusta as an Inland Port

PLANS for developing the Savannah River go forward, with a request for review of the six-foot channel project to Augusta, already authorized, with a view of possibly securing nine feet of water from Augusta to the sea. This would connect with the inland waterway along the Atlantic seaboard, which also will provide nine feet minimum in depth. The Savannah River Improvement Commission advocates the nine-foot project, which may cost approximately \$10,000,000 and would completely change the plans for development. Originally, it was planned to secure six feet minimum by locks and dams, keeping the river entirely within its banks.

This great interior of the Southeast is one of the richest areas in agricultural and industrial resources in the world. It is to bring the Atlantic Ocean 200 miles nearer this great area that the development of the Savannah River is planned, and Augusta, by virtue of its position at the head of navigation, will become a great inland port of the Southeast, taking very much the same position that Houston occupies in the Southwest.

Cotton is now moving from Augusta to Savannah for export on one packet boat that plies the Savannah River, at the rate of 600 bales per week and on a rate of 75 cents per 500-pound bale. On the upstream trips, the steamer, which is owned by the city of Augusta, brings capacity loads of sugar, canned goods from Baltimore and other eastern ports and also from Pacific Coast ports, and miscellaneous merchandise. The steamer is expected to make money for the city this year and surely in the future if the channel were navigable throughout the year.

But cotton is only one article that can be concentrated at Augusta and compressed and shipped to the ports at a saving when regular service is guaranteed. Tens of thousands of bales could be moved to New England mills through the inland waterway at a large saving. Cotton piece goods, produced by textile mills throughout this section of the South, including, of course, the Carolina Piedmont, could move by water all the way from Augusta to the East.

It is estimated that the mid-western

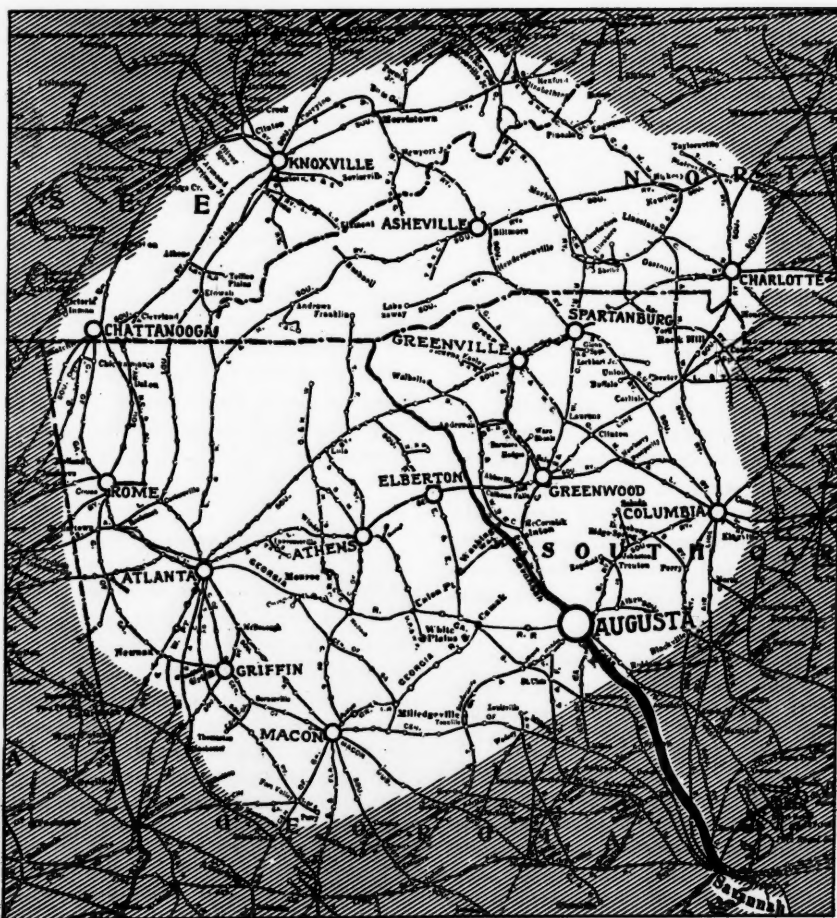
By
THOMAS J. HAMILTON

Vice Chairman,
Savannah River Improvement Commission,
Augusta, Ga.

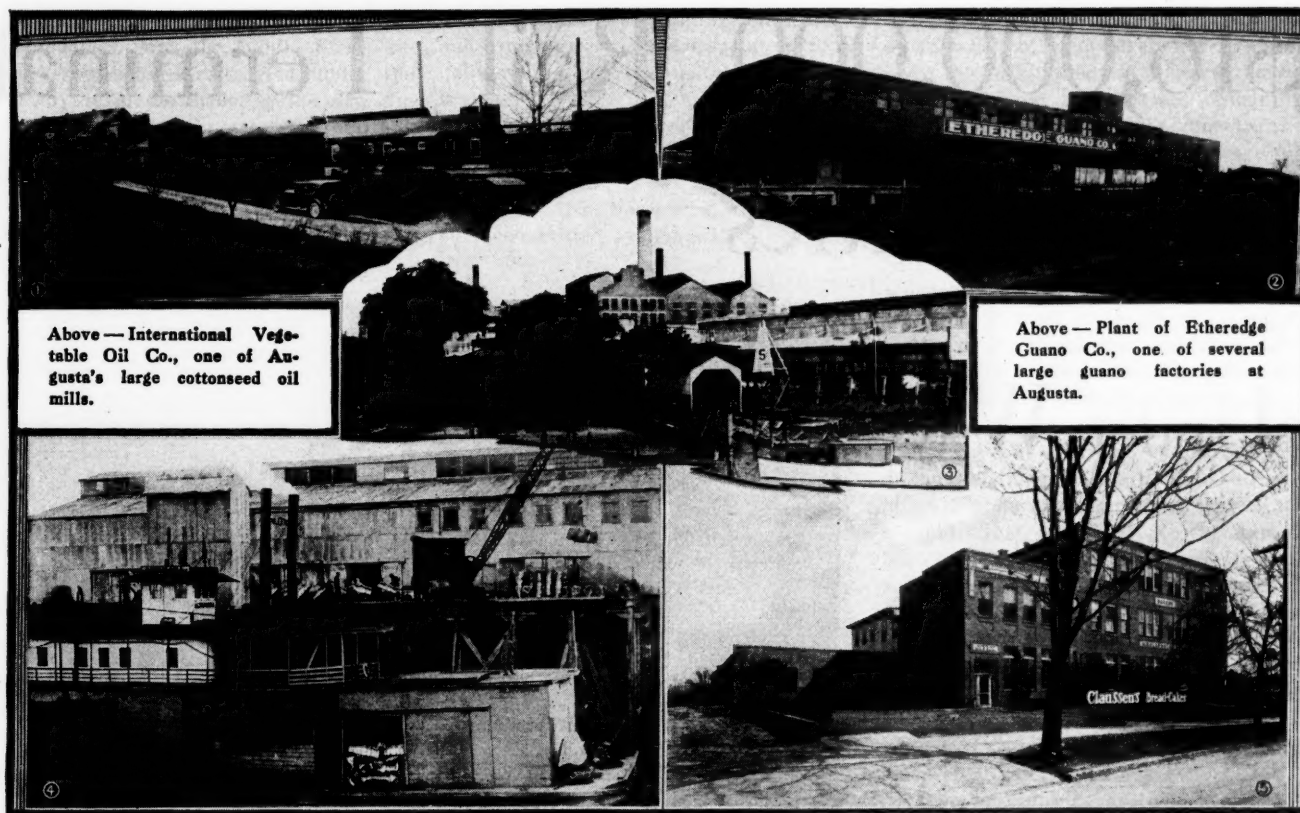
Cost of projected improvements to Savannah River may reach \$10,000,000. Contemplated developments to benefit an extensive area, rich in industrial and agricultural resources.

farmers could compete in the world's markets with their wheat, and make money, at several cents per bushel less than they can sell wheat for now, if they had all-water routes. Certainly, we could better compete with cotton made in India, Egypt and Russia with an all-water route from Augusta, as well as from Houston, Memphis, New Orleans and Savannah.

From an economic standpoint, America must develop its rivers for the benefit of the manufacturer without a water outlet, so that he can sell his products in competition with European manufacturers that have all-water routes. This is not a fight on the railroads, but an effort to cooperate with them in developing water-and-rail facilities. The rail-



The White Background Indicates the Area That Will Be Influenced by Development in the Savannah River of a 9-foot Channel to Augusta



Above — International Vegetable Oil Co., one of Augusta's large cottonseed oil mills.

Above — Plant of Etheredge Guano Co., one of several large guano factories at Augusta.

At Municipal Wharves in Augusta, Loading Cotton for Shipment to Savannah, Where It Is Reloaded for Export

Bakery Plant of H. H. Claussen's Sons. This Organization Has Plants Also in Greenville and Columbia, S. C.

In Center:—The Savannah Sugar Refinery, an Industry Which Is a Large Feeder of the Augusta-Savannah Steamer Line Now Owned by the City of Augusta

roads have been informed that they would have so much business hauling freight to and from the barge-line terminals at Augusta that they would be happy over the development. Houston had a slogan, "Where 17 railroads meet 41 steamship lines," but the number of steamship lines increased so rapidly that the slogan was changed to "Where 17 railroads meet the sea."

The project for Savannah River development carries with it economic benefit to a vast section, extending from Columbia up as far as Charlotte and including Gastonia, Spartanburg, Greenville, Greenwood and Anderson; up to Asheville, Knoxville and Chattanooga, and down to Athens, Atlanta and Macon.

The surface has hardly been scratched from the standpoint of agricultural and industrial development in this great area.

Not only cotton, but also a vast tonnage from cottonseed products, kaolins and all the ceramic industries, lumber and millwork industries, and hundreds of miscellaneous products of farm and factory would be handled via the Savannah river and the Augusta gateway, while a portion of everything we buy in the Southeast that comes from any point along the Atlantic seaboard, or on a waterway that feeds the Atlantic seaboard, would come to the Southeast by water. And when a ship canal is built across the northern portion of the Flor-

ida peninsula we shall have direct connection with the Gulf ports and the Mississippi River system.

In the MANUFACTURERS RECORD, five years ago, this writer pictured Augusta as "The City with the Golden Future," due to the possibilities and potentialities of Savannah River development. With this development much further along than at that time, I wish to repeat the prediction with a great deal more emphasis, and to say that this city will quadruple its population in the next quarter of a century, due to the Savannah River, because it so happens that Augusta is at the head of navigation on a river the development of which vitally affects a great area.

\$780,000 Medical College

Contracts

New Orleans, La.—Contracts aggregating more than \$780,000 were recently awarded on a new 10-story building here for the Louisiana State University Medical Center Charity Hospital, Dr. Arthur A. Vidrine, dean. The structure, 200 by

54 feet, is expected to be completed by October 1. The following contracts were awarded: General construction, R. P. Farnsworth & Co., Inc., at \$556,521; mechanical, Sciambra & Masino, Inc., \$127,890; electrical, Hart Enterprise Electric Co., Inc., \$59,500; elevators, Otis Elevator Co., \$57,511, all of New Orleans. Weiss, Dreyfous & Seiferth, Inc., New Orleans, are the architects.

Electric Light Association

St. Petersburg, Fla.—The Southeastern division of the National Electric Light Association in convention here elected J. C. Guild, Chattanooga, Tenn., president. L. A. McGraw, Charleston, S. C., was elected first vice-president and J. W. Hancock, Roanoke, Va., second vice-president.

\$16,000,000 Rail Terminal Facilities

Under Way
in
St. Louis

By
RUSSELL W. SEXTON
St. Louis, Mo.



Section of New Subway Showing a High Retaining Wall at the Left and a Sewer Under Way at the Right

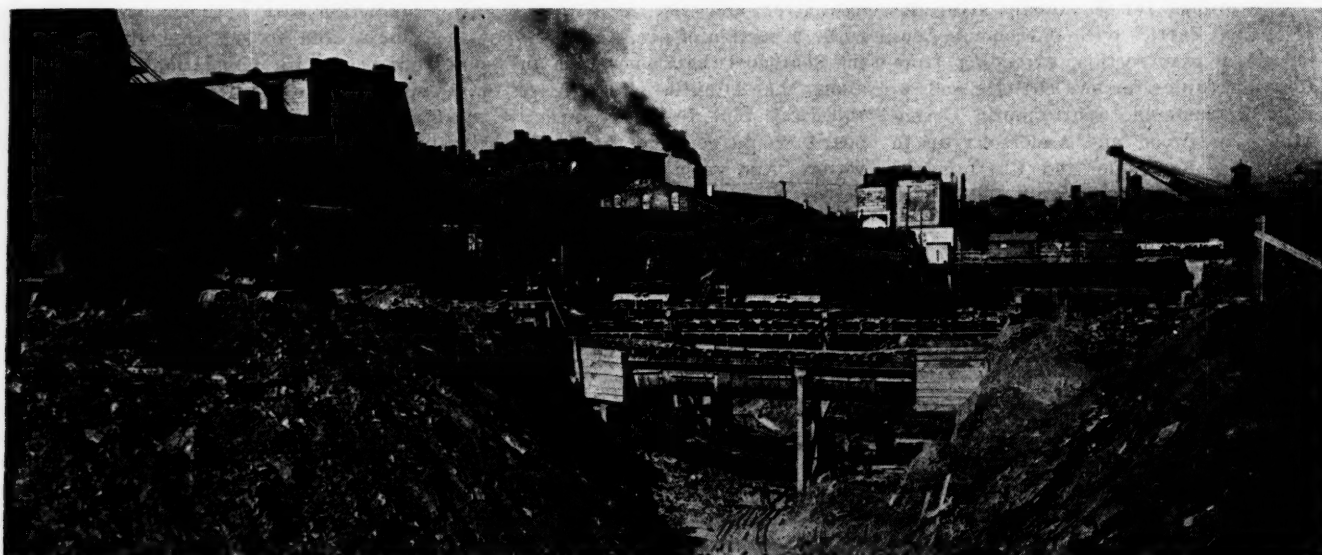
CONSTRUCTION of the \$16,000,000 elevated-surface-subway line of the Illinois Terminal Railroad System into the downtown business section of St. Louis has progressed to such an extent that the elevated division of the system has been placed in operation. Also, all surface tracks have been laid, and the freight interchange yard connecting with

the St. Louis Terminal Railroad Association tracks along the Mississippi River front is ready for operation, A. P. Titus, vice president of the Illinois Terminal, has announced.

Four thousand square yards of dirt are being moved daily out of the subway and in excavation for the \$5,000,000 subway terminus and warehouse which will cover virtually an entire city block on the east side of High Street

between Morgan Street and Lucas Avenue. Trucks, and special trains of dump cars, are carrying the dirt to the east side of the river where it is used to fill in trestles and enlarge yard facilities at McKinley Junction.

Four separate construction firms are employed by the Illinois Terminal at present on four aspects of the subway and excavation job. One firm is building a sewer in the subway cut which will



View of Illinois Terminal Subway Construction

drain the subway and adjoining land and connect with the Biddle Street relief sewer being constructed under the subway at Biddle Street by the city. Another is building the western retaining wall of the subway along High Street; another is building the Biddle and Carr streets intersections of the subway, and the fourth is completing excavation for

will serve the new building, entering a sub-basement where newsprint will be delivered and papers placed on outgoing trains.

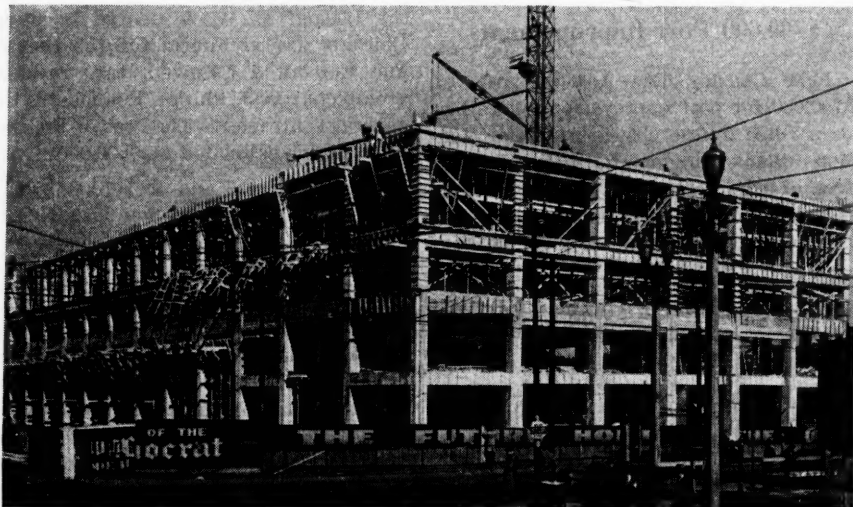
With the widening of High Street by the city from a 60-foot street to a 100-foot boulevard as a continuation of North Twelfth Boulevard, the subway-surface-elevated system will re-open the

Freight terminals will be underground, 30 feet below street level and will embody the latest ideas in construction to facilitate rapid loading and unloading of cars. Eleven tracks will run into the basement of the building and storage for 100 freight cars will be provided.

The present surface route of the line from the McKinley Bridge to the terminal will be abandoned in so far as passenger service is concerned, but a portion will be retained as a freight line to serve industries in the territory. The new route will eliminate 32 grade crossings and reduce rail crossings at grade from ten to one. The project involves a new turnout from the west river pier of the McKinley Bridge, thence the route is south along the river front, west from a point just south of North Market Street to Broadway, thence on a curve southward to Howard and Twelfth streets where it comes to grade. The subway portal will be just north of O'-Fallon Street.

Total length of the improvement is 13,641 feet, made up as follows: Subway, 3327 feet; surface tracks, 1705 feet; elevated, 8500 feet.

Firms handling general contracts, sub-contracts, architectural engineering and equipment details are as follows: Fruin-Colnon Contracting Co., St. Louis; G. L. Tarlton Contracting Co., East St. Louis, Ill. And the following, all of St. Louis: Dunham Construction Co.; The Excavating Co.; General Materials Co.; Benhur Erection Co.; St. Louis Testing Laboratory; Missouri Portland Cement Co.; Alpha Portland Cement Co.; McClintic-Marshall Co.; American Bridge Co.; James A. Hooke, consulting engineer; J. G. Seyfried, engineer for the Illinois



Framework of Globe-Democrat Building

the \$5,000,000 subway terminal building.

Industrial activity along this new route has already been manifest and a number of other projects are contemplated. The largest project along the Illinois Terminal line already under way is the new St. Louis Globe-Democrat building, being erected at a cost of \$2,000,000. The subway of the railroad

North St. Louis industrial district to many industries. The modern freight terminal and warehouse building will contain approximately 100,000 square feet per floor and the total height above the street level will be 20 stories, eight of these to be of tower construction to provide for general offices of the railroad and clients of the warehouse.



Connecting the Illinois Terminal Elevated With the McKinley Bridge

Terminal; Mauran, Russell & Crowell, architects; Westinghouse Electric and Manufacturing Co.; Mississippi Valley Structural Steel Co.; Missouri Rolling Mill Corp.; Laclede Steel Co.; Mound City Electrical Engineering Co.; Certain-teed Products Corp.; Wright Tie Co.; E. H. Ward & Co., inspection of steel work; Illinois Steel Co.; Bethlehem Steel Co.; and the Park Transit Company.

The Dunham Construction Co. has charge of the intercepting sewer work and all column footings in the subway, except on the west side of High Street.

The Excavating Co. is placing the column footings on the west side of High Street and building the retainer walls on the west side of the same street.

The Fruin-Colnon Construction Co.

holds the contracts on the Globe-Democrat building, the O'Fallon Street and Carr Street crossings, the portal of the subway and the river pier.

The G. L. Tarlton Construction Co. is building the subway structure, elevated structure and the Biddle Street crossing, as well as excavating for the \$5,000,000 terminal building.

\$700,000 Port Improvements

Lake Charles, La.—A bond issue of \$700,000 for port improvements here has been voted by the city in a special election. Plans contemplate 2000 additional feet of wharf frontage and 1600 additional feet of sheds. The bonds are to be retired by proceeds from gasoline tax.

\$800,000 Club and Theater

Roanoke, Va.—Roanoke Lodge No. 197, B. P. O. Elks, is having plans prepared by Louis Philippe Smithy, Roanoke, for a 6-story club house, to be erected in connection with a theater for the Theater Holding Corporation, Roanoke, William P. Engel, secretary, Birmingham, Ala., but under separate contracts. A site for the theater will be leased from the Lodge. C. W. & George L. Rapp, Chicago, are architects for the theater and Eubank & Caldwell, Inc., resident architects. D. J. Phipps, Roanoke, is the general contractor. The cost of the two buildings is estimated at \$800,000.

Building-Loan Meeting

San Antonio, Tex.—Leaders of building and loan associations from Arkansas, Colorado, Louisiana, Missouri, Oklahoma, Kansas and Texas will meet in annual conference in San Antonio, April 20-22. These states comprise the Southwestern group, in which building and loan investments are said to approach \$1,000,000,000 in volume. I. Friedlander, Houston, will preside at the conference and it is understood that the principal theme will involve discussions relating to the speedy return of normal business conditions through a restoration of home-building activities in the Southwestern states. Clarence T. Rice, Kansas City, Kans., is secretary of the conference.

Birmingham's \$3,000,000 Courthouse

Work was resumed in March on Jefferson County's \$3,000,000 courthouse at Birmingham, Ala. The final unit of this structure will be rushed to completion following the voting of a \$1,500,000 bond issue by citizens of Jefferson County on March 10. The new courthouse is an imposing structure on modernistic architectural lines. The building proper is of steel frame, reinforced concrete floors, finished in Indiana limestone. It occupies a site 280 by 185 feet, and is 138 feet high. The county jail occupies the top two floors of the building with other floors given over to courtrooms, county offices, etc. There will be a law library on the top floor. The building is scheduled for occupancy in September.

Construction has been in charge of a Courthouse Commission, composed of five

of Birmingham's business and industrial leaders, including: Oscar Wells, president; Walter E. Henley, Morris W. Bush, E. H. Cabannis and Lee Moody, the latter of Bessemer. Architects are Holabird & Root, Chicago, with Harry B. Wheelock, Birmingham, associate in designing the building. J. B. Smith represents the architects in superintending construction.

From a one-room log cabin courthouse in 1825 to this handsome structure—this is the story of Birmingham's growth and the growth of the county in which it is located. The first courthouse was located at Powderly, the second at Elyton. Both those sections are now in the heart of Birmingham's corporate limits. The third courthouse was erected when Birmingham became the county seat of Jefferson County in 1887.

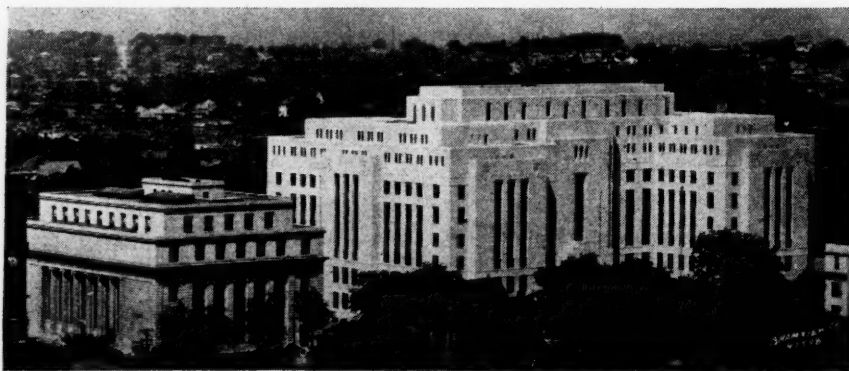


Photo by Birmingham Chamber of Commerce

Final Unit To Be Rushed; Scheduled for Completion by September

Joins Father in Journalism

Following a comprehensive experience in various departments of a daily newspaper, James L. Ewing has been elected associate publisher of the New Orleans States, of which his father, Colonel Robert Ewing, long has been publisher. Colonel Ewing heads a chain of newspapers in Louisiana, and also is member of the Democratic National Committee from that state.

A native of New Orleans and educated in that city, James Ewing became professor of mathematics at the Gulf Coast Military Academy, Gulfport, Miss., and later was named superintendent of schools at Pass Christian, Miss. On deciding to enter the newspaper business, Mr. Ewing first taught himself shorthand and typewriting and then joined the States, starting as proofreader. In turn, he went through the mechanical and business departments, with a short experience in the editorial rooms.

J. Walker Ross is managing editor of the States, and has been closely associated with Colonel Ewing for many years.

Too Much Cotton *and* Tobacco

Growers Given Facts by Chairman of Federal Farm Board and Urged to Reduce Acreage This Spring*

BURDENSOME surpluses in cotton and tobacco are keeping prices at disastrously low levels. They must be cut down sharply before producers can hope for a healthy market. Correction of this situation rests largely in the hands of the growers at planting time.

Perhaps no other agricultural product of the United States feels the effect of a decline in business activity as much as cotton. It is a commodity that has many industrial uses in addition to its use as clothing and for household purposes. As has always happened in periods of business depression, the demand for cotton has been greatly reduced and prices of cotton have declined sharply.

In 1929 a cotton crop of 14,800,000 bales was produced, which was slightly more than the crop of 1928. Decreased demand at home and abroad, chiefly due to the world-wide economic depression, resulted in a world consumption of only 13,000,000 bales of the 1929 American cotton crop. The South in 1929 produced nearly 2,000,000 bales more than was consumed, primarily because of the falling off in demand in this country, in England and in Continental Europe. Whereas in the crop year of 1929 only 13,000,000 bales of American cotton were consumed, the average consumption of our cotton for the three previous years had been 15,000,000 bales.

Before planting time a year ago this piling up of stocks of raw cotton was apparent. The Farm Board at that time laid the facts before the cotton farmers and suggested that prices for the 1930 crop probably would be lower if they did not reduce their acreage and keep the production of cotton more nearly in line with the demand. Unfortunately very little attention was given to the warning. There was some reduction in acreage, but it was small. Production, however, was curtailed somewhat by the drought, which undoubtedly played a part in keeping prices from going to levels as low as would have been the case with a

normal yield. Compared to the current rate of consumption of cotton, 14,000,000 bales is a large crop.

In the past two crop years, with consumption averaging nearly 2,000,000 bales less than production, the surplus of American cotton has been increased nearly 4,000,000 bales. This means that stocks of cotton in the United States have piled up until they now are greater than ever before at this season. Unless the rate of consumption increases between now and August 1, next, the carry-over of old cotton at that time will be of record proportions.

Taking all the facts into consideration, cotton acreage this year should be reduced at least 25 per cent. Such drastic action on the part of growers seems necessary if they can hope to get a more satisfactory price for their cotton than they did last year. Preliminary reports on farmers' intentions to plant indicate a much less reduction. This is unfortunate, but there is still time to make adjustments.

There is one thing that every cotton farmer can do to help in this general situation and to improve his own financial position. That is to plant food and feed crops in sufficient quantities to take care of his own requirements. With food for the family and feed for the livestock, the producer is in much better position to cope with unfavorable prices for his cash crop.

Tobacco Curtailment Urged

Similarly to the cotton planters, producers of most types of tobacco are facing a serious situation that may bring financial ruin to many before the present season is over. This is especially true of Burley tobacco growers. The report of intentions to plant recently made public by the Department of Agriculture indicates that the acreage of Burley tobacco will be increased about nineteen per cent over that grown last year. If these intentions are carried out, it will mean a crop of not less than 430,000,000 pounds, when the annual consumption of Burley tobacco is something less than 300,000,-

000 pounds. Such an increase in acreage may mean a much larger crop, because the estimate is based on a declining average yield, rather than the normal one.

It is estimated that stocks at the beginning of the next marketing season, October 1, 1931, will be fully 60,000,000 pounds greater than last fall. In other words, in two years it looks now as if production will have been some 200,000,000 pounds in excess of consumption. This is likely to mean ruinously low prices next fall for Burley tobacco.

Growers have in their own power to change this unfavorable outlook. This can be done by reducing acreage 19 per cent instead of increasing it by that amount as is reported to be their intention.

In the bright flue-cured tobacco sections of Virginia, North Carolina, South Carolina and Georgia, there is also too much tobacco. In 1929 there was a crop of 750,000,000 pounds and in 1930 a crop of 857,000,000 pounds. The disappearance last year of bright flue-cured stocks was 741,000,000 pounds. Thus the 1930 crop was more than 100,000,000 pounds in excess of consumption. Such a big surplus means present low prices are going to continue unless growers are willing to cut acreage 20 to 25 per cent. The report of intentions to plant shows a possible reduction of around 10 per cent, but this is not enough to get the desired results.

In the case of Virginia fire-cured and Virginia sun-cured tobacco, growers appear to be justified in producing crops about the same size as last year, and the report of intentions to plant indicates this to be in prospect, whereas production of the Kentucky and Tennessee dark types is somewhat in excess of consumptive demand and should be reduced.

Reduction of cotton and tobacco acreage is the first essential to an improvement in conditions.

The farmer's greatest needs in the South, as well as in the rest of the country, are improved marketing and adjustment of production to consumer demand. Organized effort seems to offer

Excerpts of radio talk of James C. Stone, Chairman, Federal Farm Board, over Dixie network, Columbia Broadcasting System, April 15, from Washington.

the best hope of getting these results. The duty of the Farm Board is to assist in the development of a cooperative marketing program and to supply farmers with information on crop outlook and market conditions that will enable them to make the necessary adjustments.

Fifteen regional cotton cooperatives were in existence at the time the Board was established. These had approximately 110,000 members and handled about 1,164,000 bales of the 1928 crop. Of the 1930 crop approximately 2,300,000 bales were handled cooperatively and the cotton marketing associations now have an estimated membership of 160,000 farmers.

The Board assisted in the organization of and made loans to the American Cotton Cooperative Association with headquarters in New Orleans. The Board also has extended financial assistance to the Staple Cotton Growers Association of Greenwood, Miss., which handles long-staple cotton.

In tobacco the Board has assisted in the organization of the South Carolina Tobacco Growers Association which has some 5000 members and handled approximately 17,000,000 pounds of the 1930 crop; it is assisting in the development of organization plans for associations in Virginia, North Carolina, Georgia, Ohio and the dark tobacco section of Tennessee. The purpose is to aid tobacco growers in organizing for collective marketing of their product just as rapidly as they show a disposition to help themselves.

Among other groups in the South that have received assistance from the Board in developing cooperative marketing are pecan growers; wood producers; livestock producers; dairy producers of North Carolina, Kentucky, Oklahoma, Tennessee, Mississippi and Texas; citrus fruit producers of Florida and Texas; fruits and vegetable producers of all the states; fig producers and poultry producers of Texas; and rice producers of Arkansas, Louisiana and Texas. Loan commitments to cooperatives of the Southern States up to March 1 totaled a little more than \$136,000,000, not including financial aid received by Southern cooperative associations that are affiliated with the national sales agencies for wool, livestock and grain.

Cooperative marketing associations will not run themselves. Growers must not only help set them up, but they must assume their full share of responsibility in management and support through delivery of their products. In the matter of adjustments in production, it will avail nothing for the Federal Farm Board to furnish information on supply and demand conditions unless farmers make use of this information at planting time.

South Carolina to Advertise

By RICHARD CHARLES KEECH, Charleston, S. C.

SOUTH CAROLINA has determined, through the medium of advertising to acquaint the world with the state's natural resources, including the iodine content of much of its produce. These natural resources were locally known and appreciated, and the Better Business Association of South Carolina, a non-profit cooperative organization, has taken steps to place the facts before the rest of the world.

With the recent completion of the great Saluda power dam, opportunities for development along manufacturing lines have been greatly expanded. These opportunities are many and varied, and also the mild climate enjoyed by the greater part of the state makes lighter, less expensive construction possible than is required in some other sections. This is only one of many factors which can be used in the attraction of new manufacturing and business enterprises to South Carolina.

Considering natural resources as an incentive to outside capital, South Carolina points to areas of very fertile soil, extensive forests of pine, and vast deposits of an excellent quality of white clay suitable for ceramic purposes, as well as for manufacture of high-grade coated papers. Large areas of limestone have been found, a few feet under the surface, suitable for building purposes, as well as showing 97 per cent of calcium carbonate, providing close at hand vast resources of agricultural lime.

Charleston, the seaport, has one of the largest natural, deep-water harbors in the world, peculiarly free from dense fogs. It is protected by artificial jetties and provides a safe anchorage some 14 miles long, with a mean depth at the piers of 30 feet at low tide.

The natural iodine content of South Carolina produce is unusually high, and it is with the primary idea of expanding the markets for South Carolina produce, both fresh and canned, by featuring this iodine content in a national advertising campaign, that the Better Business Association was chartered. All funds will be used solely to promote the state and its resources to the utmost effectiveness. The board of trustees is planned to include many of the most prominent men in South Carolina. A national advertising campaign will be started as soon as possible and the benefits are expected to be far-reaching.

It is believed that this projected campaign will be reflected in the attraction of new business enterprises to the state, with increased population and employment, increased payrolls and buying power, and increased prosperity. It will mean a higher development of natural resources and will strengthen South Carolina's prosperity. The office of the association is at 92 Broad street, Charleston, and information will be furnished to persons who may be interested.

Yorktown Sesquicentennial Celebration

In connection with the Yorktown Sesquicentennial Celebration to be held at Yorktown, Va., from October 16 to 19, inclusive, this year, the United States Yorktown Sesquicentennial Commission, Washington, D. C., Albert R. Rogers, director of the celebration, states that 15,000 or 20,000 grandstand seats will be required, as well as a number of large and small tents, lighting facilities, printing, etc. The federal government appropriated \$200,000 for the use of the commission in staging the celebration, while the War Department has an appropriation of \$30,000, and the President an appropriation for entertaining distinguished guests. The state of Virginia made an appropriation and the Citizens' Committee, known as the Yorktown Sesquicentennial Association, is raising \$100,000. Features planned for the celebration, which will mark the surrender of Lord Cornwallis and the evacuation of American soil by the British, will include pageants, military spectacles, naval parades with the French fleet participating, a big Colonial fair and a harvest spectacle. The commission desires the cooperation of manufacturers and business firms interested.

\$1,000,000 Soldiers' Home

Biloxi, Miss.—A \$1,000,000 Home for Disabled Volunteer Soldiers will be erected near Biloxi, according to Brig.-Gen. Frank T. Hines, Administrator of Veterans' Affairs and chairman of the Federal Board of Hospitalization. The new home will be near the United States Veterans Hospital at Gulfport.

IRON, STEEL AND METAL MARKET

The Metals Are Weak

New York, April 13—[Special.]—Price weakness has characterized the metal markets. Zinc has slipped down to 3.90 cents per pound, East St. Louis, the bottom level since 1902. Copper has sold in a limited way at 9½¢, the low point since 1895, touched last November and again in February of this year. Tin has sold as low as 25¼¢ after having fluctuated around 27 cents for several months. Silver has dipped as low as 27¼¢ per ounce after having sold as high as 31¾¢ a month ago.

Demand for the metals was not much stimulated by the lower prices. Declines in the metals were caused in part by declines on the New York Stock Exchange and the falling rate of operations in the steel industry. Metal producers were selling reservedly at the lower prices and it is hoped that they will prove to be merely temporary recessions.

Automobile production in March was 280,000 cars and trucks in the United States and Canada and is expected to be at least 320,000 units in April, possibly reaching 400,000 vehicles in May. That will mean continued good consumption of the metals in that field. The building and construction industry, which is the backbone and in fact almost the entire bone structure of the steel industry just now, is another splendid outlet for the metals.

However, general consumption on a good scale is what is lacking and a return of business confidence generally is needed before the metals get on a sound footing again. The starting of many outdoor projects with the arrival of spring should prove to be a favorable development for metal consumption.

The break in the price of zinc followed immediately after the issuance of March statistics by the American Zinc Institute. On the surface, these figures were favorable, as they revealed that surplus stocks had declined 3000 tons from a total which had been close to record proportions. Likewise the daily production of zinc was the smallest for many years. However the drop in surplus stock was chiefly in high grade metal and not in the prime Western material which is the more common form. At any rate the figures were not particularly well received and the price declined \$1 per ton on Wednesday to 3.90¢ per pound, East St. Louis, to the lowest price for 29 years. Lower prices did not bring out much demand.

The copper market has been very ir-

regular in price. The export quotation is unchanged at 10.30¢ c. i. f. European ports, which is out of line on the high side by comparison with sales in the domestic market at 9½¢. Most custom smelters have not been willing to sell below 9¾¢ while the primary producers are nominally at 10 cents. By Thursday 9½¢ copper was withdrawn in favor of 9¾ cents. Export sales have been extremely light, averaging 300 tons daily, whereas ten times that amount sells when the copper market is more active than average. However on Thursday nearly 1000 tons were sold.

Copper as cheap as 9½¢ appeared to be extremely limited in quantity, low sales are said to have been made by only one or two custom smelters who are often compelled to make a sale for refined metal in order to establish a price for them to pay for the ore and other raw material which comes into their smelters and refineries.

Tomorrow, M. Ferdinand Pisart, managing director of the Union Minière du Haut Katanga, the Belgian copper producer with mines in Africa, is due to arrive at New York on the Majestic for one of his periodic conferences with American members of Copper Exporters, Inc. The Katanga company is the world's largest potential copper producer. It is rumored that at the forthcoming conferences plans may be launched for further curtailment of production, though many maintain that further cuts are scarcely possible.

The Senate is investigating the cost of producing copper throughout the world with an eye to imposing a duty against imports of the metal. However the American copper industry is itself divided on the matter of a duty. Those against a duty are some of the large companies who own foreign copper properties. Those in favor of the duty are high cost producers in this country, principally in Arizona and Michigan.

The decline in the price of tin has been due largely to falling values on the New York Stock Exchange, since tin is a highly speculative metal and subject to speculative influences. Consumption of tin in this country is now the greatest for several months. The main consumers are the tin plate makers who are now working at 80 per cent of capacity. The automobile industry is another important outlet. When the price of tin declined below 26 cents there was a fair amount of buying by American consumers, but the market has not been brisk. Late in the week the price recovered to 26 cents.

Lead business has been exceedingly

dull. The chief hope of producers lies in the observation that lead consumers have been unusually heedless of their near future needs and must buy much metal for April use yet. Zinc demand has been very quiet. Silver has sold at lowest prices for several months.

Decline in Steel Buying May Be Seasonal

Pittsburgh, April 13—[Special.]—Steel buying has shown a slight further decrease in the last week, rather widespread in character. While demand may possibly take a turn for the better in the next few weeks the probabilities are very strong from present indications that there has been the usual seasonal turn in steel demand. Generally there has been markedly rising production after December, to a March peak, and then declining production to a low July, then an autumn increase to a secondary peak. The theory entertained early in the year was that production would rise more or less continuously, partly from spring orders being placed later than usual, through conservatism, and from general business gradually improving. There is nothing visible now to bear out that theory, steel showing a strong tendency to follow its usual seasonal course.

There was 10.1 per cent increase in the daily rate of steel ingot production from February to March, slightly less than was expected, and due to production slipping off a trifle late in the month. The March rate was 51 per cent above the December rate, which on account of liquidation all around was particularly low and under the rate of actual ultimate consumption. The 51 per cent increase represents approximately one-half recovery from that special dip and one-half usual seasonal increase.

In active times December has only a small dip and the following July is likely to run below December, but conditions last December were quite exceptional and there is no chance of seasonal decrease carrying the rate down to anything like as low a rate next July.

The official ascertainment of steel ingot capacity as of December 31, 1930, has just appeared, showing 66,897,096 gross tons per annum, or 6.1 per cent increase during the year. Increases in the preceding ten years had averaged 2 to 3 per cent a year. The new construction is due in but small part to a desire to meet the public's wants, being due

chiefly to a desire to reduce costs. Some companies wish to diversify their output, while the United States Steel Corporation for several years increased its capacity but slightly while independents were building freely, and of late the corporation has had a program to move up towards the percentage position in the steel industry it previously occupied. It should be noted specifically that considerably less than half the 1930 increase in capacity was due to improvements of various sorts, not to the building outright of new units. There is construction now under way and capacity at the end of this year is likely to be around 70,000,000 tons.

Computed against capacity on December 31, 1930, last month's production was at 54.74 per cent. Last week's rate may be estimated at about 52 per cent. The quarter may average as high as 50 per cent, which would be just one point above the first quarter average.

So far there are no precise indications that railroads are slackening in placing specifications for delivery of rails against their annual purchases made in the last few months, on account of the matter of the rail price being under investigation by the Department of Justice. The steel trade is convinced the inquiry is due entirely to political influence.

Some part of the recent slackening in steel buying was due to the automobile industry having previously bought too heavy. Its production continues to increase, but a more rapid increase was anticipated, and lately there have been some stocks of steel and parts to liquidate.

Fabricated structural steel lettings ran light early in the year but lately they have been making a good showing, and they would measure up to last year's average without the quarter million tons recently let for Radio City and Pennsylvania Railroad electrification. For more than two years fabricated structural steel business has been in sharp contrast to dwelling house construction, which has declined to small proportions.

Finished steel prices do not make a particularly promising showing. The bar, plate and shape advance is largely nominal, old contracts being extended. Sheets have slipped a little more in the last week. Automobile sheets are down \$20 a ton or 25 per cent from their 1929 top.

The Steel Corporation reports an increase of 30,136 tons during March in unfilled obligations, against a February decrease of 167,157 tons and a January increase of 188,755 tons. Compared with figures for the same months of other years the showing is not particularly favorable, or otherwise, and throws little light on the general steel situation.

Increased Iron and Steel Capacity

The survey of capacities for pig iron, ferro-alloys and steel ingots made annually by the American Iron and Steel Institute, has been completed and shows the following results:

ANNUAL CAPACITY IN GROSS TONS						
	Pig Iron	Ferro-Alloys	Total			
December 31, 1930.....	51,850,775	809,100*	52,659,875			
December 31, 1929.....	50,921,450	735,230*	51,656,680			
*Annual capacity of blast furnaces only.						
STEEL INGOTS						
	Basic O.H.	Acid O.H.	Bessemer	Electric	Crucible	Total
December 31, 1930.....	57,071,880	927,690	8,070,000	801,940	23,586	66,897,096
December 31, 1929.....	52,710,980	1,022,690	8,532,000	773,890	27,986	63,067,546

High Test Gray Iron

THE Goslin-Birmingham Manufacturing Co., Inc., Birmingham, Ala., has had in daily operation since last November a two-ton Brackelsberg furnace, and reports an output of "high alloy irons at a very reasonable cost." "Alligator Iron" is the name applied to the product of the Brackelsberg process by the company, which is now making various grades of castings to meet special conditions—heat resistant, corrosion resistant, high strength—also alloys, including nickel iron, nickel chromium, molybdenum, etc. The Brackelsberg process which was developed in Germany, is now in use in several European countries, and the success achieved led to negotiation for introducing the Brackelsberg furnace in America.

"The process is especially adapted," says the Birmingham company, "to the production of high grade iron castings and alloy gray iron, as well as being suitable for the production of malleable iron, melting of steel, also bronze and aluminum."

In place of coke, low priced bituminous coal in pulverized form is used for fuel. The only power required is for operating the pulverizer and for tilting and rotating the furnace. Tests indicate that, with proper attention, 400 heats may be obtained before relining is necessary. A recuperator is recommended to melt steel. The furnace may be operated 24 hours daily, and at either full or part capacity. The mixture may be changed every heat if desired. The system is recommended by the Birmingham company because of its economy of operation and comparatively low investment cost, not only as major equipment for melting irons of special analysis and alloy irons, but also as an auxiliary unit to regular equipment for special work, small heats, quick deliveries, etc. The furnace may also be used as part of a duplex or triplex system of melting.

The Brackelsberg furnace consists of a cylindrical drum with removable conical ends for convenience in relining and repair. The drum rotates within a cradle and is carried on two steel tires around the drum. The tires engage power-driven rollers on the tilting cradle, thus rotating the drum during the heat. The cradle is carried on two trunnions, supported in standards at the sides of the cradle, so located at the centre of gravity of the drum and cradle as to necessitate but little power to tilt the drum for charging and pouring. Tilting is accomplished by gear segments attached to the cradle and driven by pinions supported in bearing blocks on the foundation. The inside diameter of the drum on a two-ton furnace is 4 feet 11 inches, and the overall length is 14 feet 6 inches. The furnace is lined with a rammed ganister lining or silica block. The refractory lining varies from 15 to 24 inches in thickness, depending on the size of the furnace if an insulating lining is used.

The furnace may be fired from either a central pulverized coal system, or a direct fired unit pulverizer. Suitable fan equipment conveys the pulverized coal to the burner and supplies air for combustion. A brick lined furnace stack is necessary to carry the products of combustion out of the building. The Whiting Corporation, Harvey, Ill., has exclusive license for the manufacture of this furnace in America. It also builds a unit coal pulverizer for the furnace.

Pig Iron Holds Firm and Sales Are in Small Lots

Birmingham, Ala., April 13—[Special.]—Pig iron in the Southern territory shows an additional blast furnace in operation, no addition to the surplus stock on furnace yards, methods of pur-

chasing by consumers unchanged, in small lots and frequently and base prices firm. Woodward Iron Company has three of its blast furnaces in operation, Sloss-Sheffield Steel & Iron Company, two, Republic Steel Corporation, two, Gulf States Steel Company, one and Tennessee Coal, Iron & Railroad Company five. Steel producers have been selling some of their foundry iron on the open market. Recent sales for delivery into the Eastern territory or the Middle West do not call for large tonnage. In the home territory the melters indicate again that their requirements for the quarter will be satisfactory and will equal if not exceed the quantity used during the first three months of the year.

Cast iron pressure pipe shops continue their activity. Shipments are steady and new lettings are in sight. Large diameter-size pipe predominates and warehouses in various parts of the country, near the active consumers, are being kept well stocked. Many districts where pipe laying is now possible are considering tonnage. Not much finished stock is carried on yards of the shops here, shipments being equal to the make right along.

Smaller foundries and machine shops are feeling the effect of gradual improvement in general conditions and some report castings and fittings of pipe being called for in quantity. With some of these shops there is greater activity than at any time this year and more business is in sight. The larger machine shops, working on both iron and steel production are still active though report is that hard work is necessary to bring in business.

Steel mill operations have been maintained at 65 per cent capacity since resumption of operations at the rail mills of the Tennessee Coal, Iron & Railroad Company at Ensley. Sixteen open hearth furnaces are in operation in the district, the Gulf States Steel having three going. Ingot production is steady. The remainder of the open hearths are in good shape and the new large furnace at Fairfield is almost completed and will add materially to the active operations when it is started up.

For a short while there was a little lagging in sheet and plate, and structural shape fabricators also reported sluggishness. There has been recuperation again and activities are quite satisfactory. No new business has been reported recently on rails and the unfilled tonnage is being worked down. Fabricating shops are also working on an unfilled tonnage book, though numerous small-tonnage orders have been noted recently. Virginia Bridge & Iron Company received orders for bridge steel in Louisiana and several other projects in Mississippi and Louisiana gave tonnage to fabricators here.

Connors Steel Company has been shipping reinforcing concrete steel bars and an estimate for the Woodlawn shops is 60 per cent of capacity operation.

Coal production shows further reduction. Some hope is expressed that the industry will feel effect from use of devices in handling coal or in feeding boilers and other means of heat-provision.

PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00 to \$13.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50 to \$13.50; iron of 2.75 to 3.25 per cent silicon, \$13.00 to \$14.00; iron of 3.25 to 3.75 per cent silicon, \$14.50 to \$15.00.

OLD MATERIAL

Steel rails	\$10.00 to \$11.50
Steel axles	15.00 to 16.00
Iron axles	15.00 to 15.50
Heavy melting steel	9.50 to 11.00
No. 1 cast	10.00 to 10.50
Stove plate	8.50 to 9.00
No. 1 railroad wrought	9.50 to 10.00
Car wheels	10.00 to 10.50
Tramcar wheels	10.50 to 11.00
Machine shop turnings	7.50 to 8.00
Cast-iron borings	7.50 to 8.00
Cast-iron borings (chem.)	12.50 to 13.00
Rails for re-rolling	11.25 to 11.75

Coal Convention and Exhibit

New devices and appliances will be featured in an exposition of coal mine equipment, machinery and supplies, at the annual convention of practical coal operating officials, to be held at Cincinnati the week of May 11. In connection with the nationwide anti-smoke movement, a special stoker will be shown.

Fuel utilization is announced as a leading topic for discussion at the gathering, and a paper by Dr. John R. Turner, president of West Virginia University, on "Research on Coal for Utilization," will be made the basis for debate. Other papers by prominent coal operating men, in both bituminous and anthracite, will be presented, these papers to cover coal mine management, safe operating practices, mining systems, mechanical mining, anthracite mining and recent developments in mining practice and coal cleaning.

Bituminous Coal Census — South Produced 46 Per Cent of Country's Total Output

The Bureau of the Census announces that bituminous coal was produced in the United States in 1929 by 4831 enterprises, employing 457,796 wage earners (average for the year) and reporting power equipment with an aggregate horsepower rating of 3,064,440. In 1919, the last preceding year for which data were collected for mines and quarries by the Bureau, the number of enterprises engaged in production of bituminous coal was 6636; the number of wage earners employed was 545,798 (average for the year), and aggregate horsepower rating of power equipment was reported as 2,155,412.

The quantity of bituminous coal mined in 1929 amounted to 536,041,149 tons (2000 pounds), valued at \$963,045,236, as

compared with 460,425,836 tons, valued at \$1,144,322,647, in 1919. These figures represent an increase in tonnage and a decrease in value of 16.4 per cent and 15.8 per cent, respectively.

Production of bituminous coal was reported for 29 states in 1929. Pennsylvania alone reported 144,063,835 tons, or 26.9 per cent of the total; West Virginia, 139,141,875 tons, or 26 per cent; Illinois, 60,650,613 tons, or 11.3 per cent; and Kentucky, 60,217,538 tons, or 11.2 per cent. The South as a whole produced 250,000,000 tons, or 46 per cent of the country's output.

The statistics for 1929 and 1919 are summarized in the following table. The figures for 1929 are preliminary and subject to revision.

	1929	1919	Per cent of increase or decrease (—)
Number of enterprises.....	4,831	6,636	-27.2
Wage earners (average for the year).....	457,796	545,798	-16.1
Wages	\$573,447,575	\$682,601,068	-16.0
Cost of supplies, fuel and purchased electric current.....	\$143,746,670	\$179,609,720	-20.0
Bituminous coal produced:			
Tons (2000 lbs.).....	536,041,149	460,425,836	16.4
Value (f. o. b. mine).....	\$963,045,236	\$1,144,322,647	-15.8
Average value per ton (f. o. b. mine).....	\$1.80	\$2.49	-27.7
Power equipment (aggregate horsepower).....	3,064,440	2,155,412	42.2
Horsepower per wage earner.....	6.7	3.5	...
Ratio (per cent) of cost of supplies, fuel and purchased electric current to value of coal produced...	14.9	15.7	...
Ratio (per cent) of wages to value of coal produced..	59.5	59.7	...

HIGHWAYS AND MOTOR TRANSPORT

American Road Builders' Meeting

Washington, D. C.—The regular annual meeting of the American Road Builders' Association will be held at 3 P. M. May 15 at the offices of the Association in the National Press Building here, and on May 16 at 11 A. M., the City Officials' Division and the County Highway Officials' Division will hold their annual meetings in the same offices. Officers and directors of the Association elected at the recent annual convention in St. Louis will be installed and reports of the board of directors and officers whose terms expire at this meeting will be received. Newly elected officers and directors of the city and county divisions will also be installed and reports received, while such other business as may be necessary will be transacted. The annual dinner honoring the retiring president will be held at the Willard Hotel on the evening of May 15. Charles M. Upham is the engineer-director of the American Road Builders' Association.

Inter-American Highway

Washington, D. C.—According to a cable from Pyke Johnson, secretary of the Highway Education Board, from Panama City, five-sixths of the Inter-American highway between the Texas-Mexican border and the Panama Canal have been covered by preliminary reconnaissance surveys, and approximately 2300 miles of a total of 3200 is possible for traffic during the dry season. Mr. Johnson went to Panama with Thomas H. MacDonald, chief of the United States Bureau of Public Roads and chairman of the Board, to attend a conference of delegates from Mexico and Central American republics to consider plans for a continuous highway to link the countries of North America. Conferees formally organized the Inter-American Highway Commission, the meeting having been called by the government of Panama.

The least known links of the proposed highway are said to be in Costa Rica and Nicaragua and a study of these will probably be undertaken within a month by Bureau engineers, who have been requested by the respective governments to cooperate with national engineers. Construction is progressing steadily. Panama has completed the major part of her project to the Costa Rican border and expects soon to open up rich agricultural areas. Highway earnings are said to be sufficient to pay maintenance

costs and provide funds for further construction. Part of the road from Mexico City to Guatemala is improved and the remainder of it surveyed, while south of Panama great progress is reported.

With the organization of the Inter-American Highway Association, technical and financial committees were named to undertake a detailed study of financial aspects.

Refuse Permit for Freight Trailer-Motorbus Operation in Virginia

Richmond, Va.—The State Corporation Commission has denied application of the Norfolk Southern Bus Corporation for permission to operate a motor train, consisting of a motor bus and freight trailer, on the highways between Norfolk and Mundun. The decision attracted widespread attention because of the proposal to operate a passenger bus and freight trailer rather than a combination truck and trailer frequently used by Trucking companies on the highways. Moreover, the highway over which the bus-trailer was to operate is only 14 feet wide.

This application will serve a useful purpose, says the Norfolk Ledger-Dispatch, for it "should arouse the public to a keener comprehension than now seems to prevail of the gravity of the problem involved in the use of highways by common carriers. The public, being tolerant and inclined to follow the line of least resistance, may think of a bus or truck as a kind of necessary nuisance to be taken in the stride of every day, modern life. But when it considers the possibility, the probability, of motor trains on the highways it probably will be somewhat less tolerant."

Regulating Georgia Bus Traffic

Atlanta, Ga.—Two acts passed at the extra session of the Georgia Legislature, now in effect, provide for regulating the size, type, weight and other details of buses and their operation, neither act providing for additional revenue from carriers. A motor carrier tax act to go into effect May 1 imposes a tax on motor carriers from one-half cent to two cents a mile, with an elective flat annual tax provision of \$25 to \$800. Passenger motor buses operated within municipalities will be required to pay a levy, while municipalities are given the right to levy additional taxes on such carriers.

Street and Highway Safety

Washington, D. C.—The Highway Education Board, announcing its Tenth National Campaign for street and highway safety, offers 430 cash prizes and the same number of medals to elementary school pupils and prizes totaling \$1000 to elementary school teachers. This campaign, comprising a safety essay contest for pupils and a safety lesson contest for teachers, will stress rewards for practicing safe conduct on streets and highways. The subject for the essay contest is "My Rewards for Observing Street and Highway Safety Rules," and the subject for the lesson contest is "Teaching the Rewards of Careful Conduct on Streets and Highways." Competition is open to pupils of the fifth, sixth, seventh and eighth grades, 14 years or under, and the lesson contest is open to teachers of the eighth and lower grades. The contest closes May 15. Thomas H. MacDonald chief of the United States Bureau of Public Roads is chairman of the Highway Education Board.

International Trucks for Atlanta Firm



These five AW-2 International trucks were recently placed in service by Armour & Co., Atlanta, Ga. Bodies were built by A. C. Miller & Co., Atlanta. Equipment includes United States tires.

AVIATION, AIRPORTS AND AIRWAYS

Effective Use of Airplane in Patrolling High Power Transmission Lines

The Arkansas Power & Light Co. of Pine Bluff, is finding extensive use for an airplane in patrolling high voltage transmission lines and for quickly transporting officials and emergency crews. During bad weather when rain or snow and overflow water conditions hamper land traveling, the plane is regarded as particularly helpful.

The transmission system covers approximately 1500 miles of line broken up into sections of 30 to 50 miles by sectionalizing switches. Any section where trouble develops is determined as between two such switches. The procedure calls for dispatching the plane to the area, flying at a low altitude to locate the line trouble. Blueprints giving ground conditions along the line and showing structure numbers, roads, railroads, angles and landmarks, are placed on a board having a roller at each end and fitted with a crank in such manner as to permit that part of the print corresponding to the ground over which the plane is flying to be kept always in view. Artificial markers on the ground in the form of boards two by three feet, placed on top of crossarms facing upward and each painted a different color combination, have been added where there are no natural landmarks for a distance greater than five miles.

A full time pilot and observer are always ready for service. When trouble appears on a line the load dispatcher calls for the plane; while the pilot and observer are getting the ship ready for the takeoff, the dispatcher has sectionalized the line and knows the area in which trouble lies. The observer is advised as to the definite section to be patrolled. The plane goes to the closest end of the affected line and flies along the section until cause and location of the trouble is found. The exact location is determined by counting the number of structures from the fault to the nearest landmark and referring to the map. The plane then continues to the nearest substation, circling low over it, and the observer having noted the structure number and placed it in a paper cylinder tosses it to the operator in the switch yard. He in turn gets in touch with the chief dispatcher and a crew is soon on its way to make repairs. Although much preparation is required, it has been found cheaper to locate the trouble quickly than to spend hours look-

ing for it before even starting to make repairs. In one instance, trouble 90 miles away was located and a repair crew was on its way within an hour and a quarter from the time the line went out.

During seasons when forest fires are numerous plane patrol proves valuable. In two cases burning poles were found in time to dispatch the trouble crew to the scene and extinguish the fires. On another occasion when a line was burned down the plane crew quickly located the damaged section.

Aerial Survey of Mississippi Valley Covers Extensive Area

Indicative of the extensive use to which serial photography is being put in the South and Southwestern states is the survey of more than 16,000 square miles of territory in a period of one year by

the Southwestern Aerial Surveys, Inc., Austin, Texas. This company handled work under the direction of Major John C. H. Lee, District Engineer, U. S. Engineer Office, Vicksburg, Miss. It photographed land in the alluvial valley of the Mississippi River from the mouth of the Red River to the mouth of the Arkansas River, the lower Red River valley and its backwater area, the Ouachita River valley, the Boeuf River valley, and the Yazoo backwater area.

3357 Airplane Output in 1930

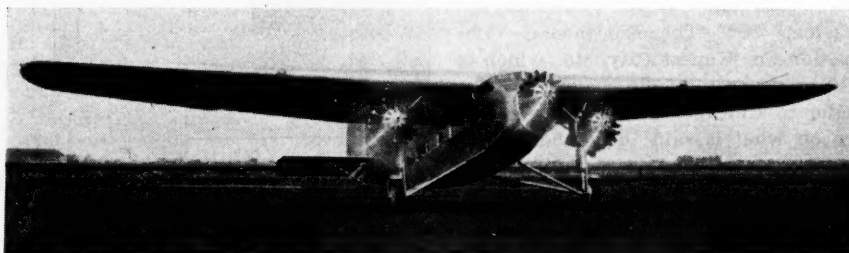
Washington, D. C.—Based on Federal licenses, identifications and reports, the Department of Commerce estimates the production of aircraft in 1930 at 3,357, and of this number 2,521 were civil or commercial planes and 836 military deliveries. May was the peak month of production when 396 planes were produced.

Promoting Air Travel in the South

An all-metal, tri-motored airplane, the Stanolind III, of the Pan American Petroleum and Transport Co., New York, is making courtesy flights through the territory in which the firm operates in the South, as part of a campaign to promote air-mindedness and demonstrate the comfort and safety of air travel. The plane is nearly 50 feet long, has a wing spread of 78 feet, and is 13½ feet high. Powered with three 420-horsepower motors, it will fly at 145 miles an hour at top speed and has a cruising speed of 110 miles. It carries a total load of 13,250 pounds including crew of two, passengers and 2025 pounds of baggage. The main cabin is 16 feet long, four and a half feet wide and six feet high. It has nine chairs and ar-

rangements for two berths. Baggage is carried in compartments in the wings. There is a lavatory in a small cabin in the rear of the ship. The pilots' compartment has space for two, and is equipped with modern navigating instruments and devices for safe and efficient operation. Lighting is by electricity throughout. Two flares are carried for night landing. Fuel tanks in the wings hold 355 gallons of gasoline, sufficient for five and a half hours cruising. The plane is equipped with an RCA short wave radio receiver.

After serving the Standard Oil Company of Indiana for part of 1929 and all of last year the plane was turned over to the Pan American company early this year for the Southern tour.



The Stanolind III, a Three-Motored Passenger Plane

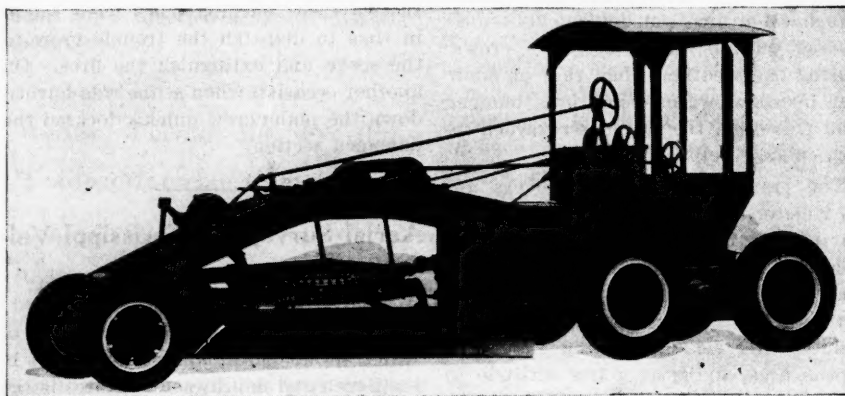
NEW AND IMPROVED EQUIPMENT

Adams Motor Graders

Marking a new development in motor grader design, the J. D. Adams Company, Indianapolis, Ind., announces that all Adams motor graders are now of electric welded construction. The company also announces a new tandem drive, with four driving wheels, which are said to give the machines better traction on soft or muddy ground. It is pointed out that welded construction has the advantage of retaining the full strength of structural members by the elimination of rivet holes and that there is no loosening of rivets by vibration. Advantages claimed for the tandem drive are that equal weight is carried on all four wheels which pivot around the tractor axle; the front end of the tractor is supported in the grader frame, utilizing a considerable portion of the tractor's weight as effective weight on the blade, and all drive chains, sprockets and bearings are completely enclosed in dirt proof

housings. Each drive wheel is driven by a separate roller chain and the tractor and wheel axles are mounted on ball and roller bearings. Tires are 40 inches by 8 inches, 12 ply, heavy duty pneumatics, with puncture proof tubes. Adams mo-

tor graders are furnished with McCormick-Deering, Allis-Chalmers or Case tractor power units, and with solid tires, with pneumatic tubes in the single wheel or tandem drives, and with steel or rubber crawlers.



Of Welded Frame Construction With Tandem Drive

"Pneuphonic Horn"

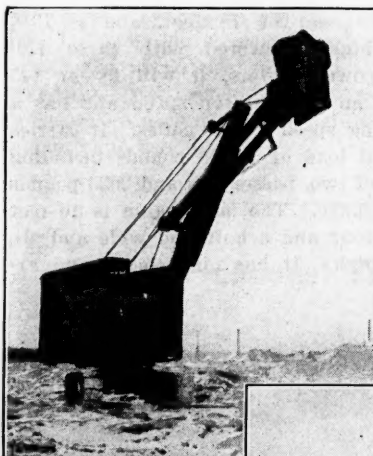
An air signalling system in the form of an installation of a number of "Pneuphonic horns," recently made in a new beam mill of a large steel plant, is said to possess important advantages. The horns were supplied by the Westinghouse Traction Brake Company, Wilmerding, Pa., together with Westinghouse National air compressors to furnish air for the horns apart from the general mill supply. This type of horn, said to be particularly adaptable to steel mill installation, consists of a counterbalanced diaphragm enclosed in a sturdy weatherproof housing and a bronze bell. The air compressors are of duplex type with water cooled cylinder head and driven through herringbone gear pinion by a 250V D. C. motor.

Large Compressor Plant

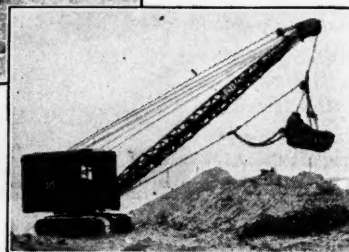
Fritch, Tex.—The Continental Construction Co., Kansas City, Mo., which is building a gas line from the Texas Panhandle to Chicago, will start work at once on what is said to be the largest gas compressor plant ever built. The plant, designed to provide pressure behind a flow of natural gas through 1000 miles of pipe, will be equipped with 12 units of 1250 horsepower each. George H. Siedhoff, Wichita, Kans., is contractor.

3/8-Yard Convertible Excavator

The Harnischfeger Corporation, Milwaukee, Wis., announces a 3/8-yard excavator, now in production, to be known as Model 200-A and of the same general design as the larger P&H's. Compactly and sturdily built with a large proportion of alloy steels, the machine was designed to meet demand for a convertible excavator weighing less than 14 tons.



Above — Model 200-A P & H Convertible Excavator Showing Shovel Equipment.



Left — Lattice Box Section Design of Dragline and Crane Boom.

Hoist, swing, crowd and travel speeds are said to be unusually fast. The corduroys (crawlers) employ the P&H double sprocket drive on link pins instead of the links themselves. Machinery on the revolving frame is placed with a view to compactness and accessibility. Drums are mounted on separate shafts with the jack shaft assembly between, and the entire gear train is on the right side of the machine, running in oil. Power is furnished by a four or six cylinder gasoline engine. Model 200-A shovel is standard with a 17-foot boom and 12-foot dipper sticks, providing a total dumping height below door of 17 feet. Dragline and crane booms are of lattice box section design with a standard length of 30 feet. The machine is fully convertible for shovel, dragline, clam-shell-crane, trench-hoe or skimmer-scoop operation, and by reason of power clutch control and responsive brakes, is easily operated. An enclosed steel cab is also standard.

CONSTRUCTION DEPARTMENT

and

NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Ala., Birmingham—Fromhold Bros., 1768 Tuscaloosa St., reported, have contract at \$21,000 for paving work at airport, including 100 ft. conc. apron extending about hangar and administration buildings.

Ark., Little Rock—Shearman Concrete Pipe Co., 2600 E. Fourth St., North Little Rock, reported, low bidder at \$11,000 for drainage pipe for municipal airport; Arkansas Foundry Co., 1500 E. Sixth St., at \$3,882, for highway guard fencing, gates and posts; Grady L. Garms, Rector Bldg., at \$5,000 for landscaping and paving. 4-2

Fla., Jacksonville—City plans voting in summer on bonds for airport development.

Ga., Atlanta—J. E. Berman, Chrm. Aviation Committee, and associates, interested in erection of terminal and administration building at Candler Field; cost \$40,000.

Ga., Augusta—City, W. D. Jennings, Mayor, reported, improve Daniel aviation field.

Ga., Macon—City, G. Glen Toole, Mayor, reported, considering improvements to airport facilities.

Miss., Forest—E. L. Turner, Forest, has contract for clearing fields in connection with improvements to Air Field on Fort Worth-Atlanta Airway for Dept. of Commerce, Bureau of Lighthouses, Washington, D. C., and for complete conditioning, which includes grubbing, grading 5067 cu. yds., etc.; F. C. Hingsburg, Ch. Engr., Airways Div.

Miss., Laurel—Bradley Bros. will probably receive contract at \$12,900 for construction of airplane hangar at municipal airport. 4-2

Tex., Dallas—City voted \$300,000 bonds for improvements at Love Field airport. 3-19

Tex., Wichita Falls—Fulcher Armstrong, 1902 Victory St., has contracted with city for operation of Kell Field; will move equipment from Staley Field to Kell field.

Va., Winchester—Admiral Byrd Airport, Inc., chartered; C. H. Shutte, Winchester.

Bridges, Culverts and Viaducts

Proposed Construction

D. C., Washington—Arlington Bridge Memorial Comsn., Maj. O. H. Gillette, Ch. Engr., Navy Bldg., has low bid from J. W. Coleman, Clarendon, Va., for overpass to connect Virginia end of Arlington Memorial bridge with Arlington Cemetery; will carry Arlington Bridge Blvd. over tracks of Rosslyn branch of Pennsylvania R. R. 4-9

Fla., Miami Beach—City, C. W. Tomlinson, Clk., opens bids Apr. 22 for timber bridges, Alton road, over Surprise Waterway and Pine Tree Dr., over Flamingo Waterway, and repairs to timber bridges, Atton road and on W. 27th St., over Biscayne Waterway, and W. 63rd St., over east and west channels of Indian Creek; quantities in new bridges: Removal of 2 bridges, removal painting and replacement of 2 steel center spans, 6366 lin. ft. creosoted timber piles, 122 m. b. m. creosoted timber, 14,750 lb. struc. steel, 325 lin. ft. pile penetration into rock, 700 lin. ft. timber rail; quantities in

bridge repairs: 4300 lin. ft. untreated piling, 700 lin. ft. untreated nailing strips, 800 lin. ft. timber rail, 550 lin. ft. caps, sub-caps, mud-sills and posts; roadway decking, sidewalk, stringers, 100 lin. ft. rock penetration, 1000 sq. ft. abutment sheathing.

La., Alexandria—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, selected site for bridge over Red River.

La., Baton Rouge—State Highway Comsn., O. K. Allen, Chmn., reached definite agreement with Missouri Pacific R. Co., St. Louis, Mo., and Louisiana & Arkansas Ry. Co., Shreveport, to share costs of building rail-vehicular traffic span over Mississippi River here; to cost \$5,000,000 to \$9,000,000.

La., Shreveport—State Highway Comsn., O. K. Allen, Baton Rouge, reported, let contract June 2 for traffic bridge over Red River. 3-12

Maryland—See Roads, Streets and Paving.

Md., Rockville—Montgomery County Comms. plan improving north end of Gaithersburg bridge over B. & O. R. R. tracks.

Mississippi—State Highway Comsn., Gus A. Draper, Engr., Jackson, has plans approved by War Dept., Washington, for bridges over Buttahatchie River near Columbus and Leaf River east of Collins.

Miss., Holly Springs—See Roads, Streets and Paving.

Oklahoma—State Highway Comsn., Sam R. Hawkes, Chmn., Oklahoma City, plans 3 bridges: 9-span, 118-ft. rein. conc. bridge near Binger, \$35,000; 2-span, 210-ft. steel truss bridge on conc. piers, Ft. Cobb, \$40,000, both Caddo County; A. R. Losh, Highway Engr.

Okla., Oklahoma City—Capital Iron Works Co., Topeka, Kans., has contract for 500 tons struc. steel for viaduct of Chicago, Rock Island and Pacific Ry. Co., W. H. Petersen, Ch. Engr., Chicago, Ill.

Okla., Guthrie—Logan County Comms. have preliminary plans for 130-ft., rein. conc. bridge, Marshall, \$25,000; A. O. Walker, Engr.

TEXAS—State Highway Comsn., G. G. Wickline, Highway Engr., Austin, plans 9 bridges in following counties:

Bowie-Morris—steel, conc., timber pile trestle bridges over White Oak Creek and Sulphur River, Highway 11, total length of bridges 2922 ft., overall length of project 3215 ft., 22-ft. roadway on bridges, SAP 922-C, \$130,000;

Ellis—steel, conc. overpass across Texas & Midland Ry., Highway 14, 199 ft., 22-ft. roadway, FAP 582-C, \$60,000;

Fannin—conc. bridges over Bois D'Arc Creek and 2 relief openings, Highway 5, 798 ft., 22-ft. roadway, FAP 464, \$50,000;

Jim Wells-San Patricio—conc. and steel bridges, 22-ft. roadway, over Nueces River and relief openings, Highway 12, overall length of bridges 2795.5 ft., of project, 4683 ft., FAP 429-C, \$245,000;

McLennan—steel, conc. overpass across M-K-T Ry., Highway 31, 205.7 ft. long, overall length of project about 2000 ft., 241 ft. roadway, FAP 605-B, \$50,000;

Robertson—12 steel and conc. bridges, Highway 43, total length 1044 ft., 22-ft. roadway, FAP 582-C, \$60,000;

Tarrant—rein. conc. bridge over Trinity River, Highway 10, 716.84 ft., 30-ft. roadway, FAP 551-J, \$65,000;

Victoria—conc., steel bridge over Guadalupe River, Highway 12, 377.17 ft. long, 22-ft. roadway, overall length of project 724.5 ft., FAP 551-J, \$65,000.

Wilbarger—steel, conc., creosoted timber pile trestle bridge, 3705 ft., over Red River, Highway 23, SAP 928-E, \$150,000;

Tex., Dallas—Dallas County, F. H. Alexander, County Judge, let contract to J. Lee & E. A. Vilbig, Inc., 2517 Eakin St., at \$75,000, for repairs to Oak Cliff viaduct over Trinity River; Rollins & Clinger, Dist. Engr., Hall of Records Bldg. 3-12

Virginia—See Roads, Streets and Paving.

W. Va., New Cumberland—Hancock County Comms. plan 150-ft. steel, conc. bridge over Kings Creek, Route 2, near Weirton, \$100,000.

West Virginia—State Road Comsn., Geo. E. White, Sec., Charleston, let contract to Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa., at \$40,900, for 3 steel bridge superstructures, Ritchie County. 3-26

West Virginia—See Roads, Streets and Paving.

Contracts Awarded

Ala., Birmingham—City, A. J. Hawkins, City Engr., let contract to Henning & Bragan for Lomb Blvd. and Center St. bridges over Valley Creek, at \$18,705 and \$7262 respectively.

Florida—State Road Dept., Robt W. Bentley, Chmn., Tallahassee, let contract to Thomas Construction Co., Punta Gorda, at \$9533, for 2 timber bridges, Proj. 806-D, Hendry County.

Ky., Henderson—Following have sub-contracts in connection with bridge of Indiana State Highway Comsn., Indianapolis, Ind., and Kentucky State Highway Comsn., H. D. Palmore, Engr., Frankfort, Ky.: Lumber, Long-Bell Lumber Co., R. A. Long Bldg., Kansas City, Mo.; rein. steel, Laclede Steel Co., 208 S. La Salle St., Chicago, Ill.; sand and gravel, Bedford-Nugent Co., Evansville, Ind.; cement, Lone Star Cement Co., Indianapolis, Ind.; caissons, St. Louis Structural Steel Co., 57th & B. & O. Aves., E. St. Louis; hardware, St. Louis Screw & Bolt Co., 6900 N. Broadway, both St. Louis, Mo.; Kansas City Bridge Co., 510 Brear-Leslie Bldg., Kansas City, Gen. Contr. for 5 main piers; piers will be from 90 to 115 ft. deep and will be constructed by pneumatic process; first pier base has been sunk to within 10 ft. of its final landing elevation; another pier is being sunk. 11-6-30

OKLAHOMA—State Highway Comsn., Sam R. Hawkes, Chmn., Oklahoma City, let contracts for 2 bridges in following counties:

Noble—9-span, 144-ft. rein. conc. bridge, Perry, L. S. Fisher, Woodward, \$32,947;

Kiowa—11-span, 188-ft. rein. conc. bridge, Snyder, Roberts & Fisher, Norman, \$62,239.

Tenn., Danville—Louisville & Nashville R. R. Co., W. H. Courtenay, Ch. Engr., Louisville, Ky., has application approved for draw bridge over Tennessee River.

Tex., Dallas—Mosher Steel & Machinery Co., 4209 Maple St., has contract for 143 tons conc. bars for repairs to Oak Cliff viaduct, of Dallas County, Charles E. Gross, County Aud. 3-12

Tex., Houston—Harris County, H. L. Washburn, Aud., let contract to A. J. Smith, 323 E. 15th St. for rein. conc. bridge over Buffalo Bayou, Post Oak Rd., \$35,000.

W. Va., Harper's Ferry—American Bridge Co., 71 Broadway, New York, replace 30 steel girders in new bridge of Baltimore & Ohio R. R., H. A. Lane, Ch. Engr., Baltimore, recently damaged by fire; to be complete about May 30. 10-30-30

Canning and Packing Plants

La., Alexandria—D. J. Tanner contemplates organization of canning plant. See Want Section—Machinery and Supplies.

N. C., High Point—Farmers Mutual Canning Co., incorporated; W. M. Ketchum, J. I. Wagoner.

Clayworking Plants

Va., Big Stone Gap—D. C. Sloan and W. H. Bolling, reported, acquired brick plant of Big Stone Gap Brick and Tile Co.; plan operating.

Ala., Birmingham—National Fireproofing Co., Fulton Bldg., Pittsburgh, Pa., reported, acquired land in western part of county; shale to be brought to the North Birmingham plant for manufacturing tile; lately noted acquiring Vulcan Tile & Brick Co., 1203 First Ave., N. 2-5

Coal Mines and Coke Ovens

Ala., West Blocton—Chas. G. Steward Machine Co., P. O. Box 1191, Birmingham, building a 2-jig plant for Hill Creek Mining Co., using 2 Elmore Jigs with all necessary conveying and screening machinery; plant to be in operation in 90 days. 4-9

W. Va., Davy—Monarch Smokeless Coal Co. plans improvements to tipple, erect feeder line, etc.

Cottonseed-Oil Mills

Tex., Fannin—South Texas Cotton Oil Co., reported, erect gin 5 miles from here.

Drainage, Dredging and Irrigation

Florida—U. S. Engr. Office, Jacksonville, has low bid from Desrocher & Watkins Towing Co., 51 S. W. Miami Road, Miami, at 14 cents per cu. yd., for dredging approx. 175,000 cu. yd. material, Caloosahatchee-Lake Okeechobee Canal, consisting of dredging channel from Lock No. 3 near Fort Thompson to Lake Okeechobee, with usable depth of 4 ft. 3-19

Texas—U. S. Engr. Office, Galveston, opens bids May 22 (new date) for dredging Sabine River-Galveston Bay section of Louisiana and Texas Intracoastal Waterway through Jefferson County and part of Chambers County, from point about 6614 ft. west of Port Arthur Canal.

Tex., Pharr — Pharr-San Juan Irrigation Dist., Hidalgo County, soon take bids for 8 mi. of drainage ditch 24 ft. wide, 8 ft. deep, \$25,000; E. M. Mard. County Engr., Pharr.

Virginia—War Dept., Washington, D. C., allotted \$33,000 for dredging in James River to continue work started on 25-ft. channel from mouth to deep water terminal at Richmond.

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

D. C., Washington—Following contractors estimating on remodeling of power house for Dept. of Agriculture, bids opened April 22: Lee T. Turner, 1366 Perry Place, N. W.; Smythe & Co., 1416 F St., N. W.; DeSibour Construction Co., 1200 15th St., N. W.; Henry B. Davis, 1316 G St., N. W.; W. E. Mooney; Arthur L. Smith & Co., both 2539 Pa. Ave., N. W.; C. Wohlgenuth, Jr., 1800 E St., N. W.; Frank Cole, Bond Bldg.; Bahen & Wright, 916 R. I. Ave., N. W., all Washington; J. George Bensel Co., 3005 Shannon Drive, Baltimore, Md.; Cox Stoker Engineering Co., 1108 Market Bank Bldg., Hazleton, Pa. 4-9

D. C., Washington—Public Buildings and Park Comsn., Navy Bldg., reported, have plans ready within 30 days for heating plant and concrete tunnel D and 20th St., N. W.; 90x180 ft.; rein. conc.; brick and steel; 98 ft. brick stack; 4300 ft. of conc. tunnel; cost \$750,000. 3-19

Fla., St. Petersburg — E. H. Rollins & Sons, Inc., Boston, Mass., and associates offering issue of \$2,000,000 first mortgage,

5½% bonds, Series B, of Florida Power Corp.; proceeds to be used to reimburse corporation for expenditures in connection with additions, betterments and improvements and for other corporate purposes.

La., Baton Rouge—Stone & Webster Engineering Corp., 40 Federal St., Boston, Mass., advises new work company is planning for Louisiana Steam Products, Inc., involves installation of a 1382 h.p. boiler and extension of present water treating plant which at present has a capacity to remove from 6 to 120 tons of solids a day; Converse Bridge and Steel Co., Chattanooga, Tenn., has contract for structural steel; Babcock & Wilcox Co., New York, N. Y., has contract for boiler, preheater, economizer, water wall and superheater. 4-2

Md., Edgewood—Following will probably receive contracts for work at Edgewood Arsenal for U. S. Govt., Chemical Warfare Service, in connection with removal of steel stacks and erection of brick stacks: Cathell Bros. & Co., Lawrence St. & Fort Ave., Baltimore, for erection brick stacks; East Coast Steeple Jack Co., 1920 Wallace St., Philadelphia, Pa., for removal of 4 steel stacks; Acme Steel Engineering Co., 917 S. Howard St., Baltimore, for breeching.

Mo., Poplar Bluff—Black River Hydro Electric Co., capital \$50,000, incorporated; F. L. Roach, S. C. Hudson.

N. C., Asheville—City votes May 12 on proposed new franchise to Independent Power and Light Co., Robt. Brown and John H. Cathey, 39 E. College St., representative. 3-19

N. C., Walnut Grove—Southern Power Co., Charlotte, reported, raise dam on Dan River about 8 ft., increasing power and providing for reserve of water; also, reported, power company will build electric line from plant here, via Danbury to Westfield to connect with line from Mount Airy.

Tex., Austin—Southwest L. E. Myers Co., Allen Bldg., Dallas, reported, has contract at \$100,000 for heavy duty power transmission line from Marble Falls to site of projected dam of Emery, Peck & Rockwood Development Co., 818 Scarborough Bldg., Austin, in Colorado River between Burnet and Llano counties. 1-22

Virginia—Virginia Public Service Co., Alexandria, Va., F. W. King, Executive Vice Pres., advises that considerable portion of budget for 1931 will be required to complete Bremon Bluff steam generating plant and residue will be used for line extensions, rebuilding and maintenance items; aside from the Bremon plant there will be no large units of construction undertaken during the year; next largest single item being the installation of new boilers in plant at Hampton. 4-2

Va., Swords Creek—Appalachian Electric Power Co., Charleston, W. Va., reported, construct transmission line; furnish town with power.

Flour, Feed and Meal Mills

Ga., Augusta—Smith Bros. Grain Co., Atlanta, reported, acquired interest in Southern Milling Co.

Foundry and Machine Plants

Md., Baltimore—George L. Schubert, 2332 Frederick Ave., has sub-contract for plumbing for office bldg. only for Harry C. Weiskittel & Co., Inc., 4801 Philadelphia Rd.; Standard Electric Co., 526 48th St., Essex, for electric work; contract for plumbing and electric work for plant to be let later; contract for heating plant not let; E. Eyring & Sons Co., Gen. Contr., 808 S. Conklin St. 3-26

Mo., St. Louis—Busch-Sulzer Bros. Diesel Engine Co., Edw. B. Pollister, Pres., completing revised plans for erection shop and foundry building 3300 S. Second St.; will soon call for bids; brick and steel; erection shop, 150x80 ft.; foundry, 80x90 ft.; W. J. Knight & Co., 903 Wainwright Bldg., Engr. 4-2

Tenn., Memphis—Layne & Bowler, Inc., manufacturers of vertical centrifugal pumps, reported, let contract to Meers & Wallenta, 63 S. Third St., Memphis, for 2 story, fireproof building at plant, 2005 Chelsea Ave. for storing of metal and wood patterns; rein. conc.; install metal shelving; window sashes and doors of metal.

Tex., Houston—Hughes Tool Co., 300 Hughes St., advises do not contemplate at present time any expansions in operations or enlargement of plant in connection with recent bond offering of \$3,000,000. 4-9

Garages and Filling Stations

Ark., Little Rock—Col. John R. Fordyce, Chrmn. Comsn., Camp Pike, receives bids April 24 for motor transport garage and machine shop; cost \$25,000; plans by Thompson, Sanders and Ginochio, Archts., Hall Bldg.

D. C., Washington—U. S. Government, David Lynn, Archt. of the Capitol, reported, construct near Senate Office Bldg. underground garage; rein. conc.; water proofing; electric wiring; heating, etc.; cost \$500,000; plans in progress; Bennett, Parsons & Frost, Archts., 80 E. Jackson Blvd., Chicago, Ill.

Fla., Crestview—Gerlach Motor Co., incorporated; T. Staff, J. Gerlach.

Ga., Sparta—W. T. Whaley, Sparta, reported, has contract for garage and filling station for Prescott Chevrolet Co.

La., New Orleans—Pan-American Oil Corp., Canal Bank Bldg., reported, let contract to Lionel F. Favret, Louisiana Bldg., for service station at S. Miro and Calhoun Sts.; Wm. Wallace, Pere Marquette Bldg., for service station, Upperline and Feeret and Amelia and Prytania Sts. and service station, Delaronde and Seguin Sts. 4-9

La., New Orleans—Sinclair Refining Co. extended date of opening bids from April 13 to 20 for filling station, Louisiana Ave. and Dryades St.; 1 story, 50x50 ft., brick and stucco; rein. conc. foundation, iron and steel work; Weiss, Dreyfous & Seifert, Archts., Maison Blanche Bldg., New Orleans; following contractors estimating: Reilly-Ruckstuhl, Inc., 423 Carondelet St.; Wm. Wallace, Pere Marquette Bldg.; H. A. Pallfelt, Balter Bldg.; Lionel F. Favret, Louisiana Bldg.; H. Pratt Farnsworth, Canal Bank Bldg.; H. Perlman, 4036 Washington Ave. 4-9

Md., Baltimore—Calvert Garage, Inc., capital \$10,000, incorporated; W. D. Roycroft, 224 St. Paul St.; lately noted to construct garage Calvert & Read Sts. 4-9

Md., Baltimore—Baltimore Cement Products Co., Inc., 1448 Wicomico, will start work in about 2 weeks on garage Hamburg and Bush Sts.; brick; 1 story; 76x155 ft.

Md., Baltimore—Howard D. Bennett, 2114 Allendale Ave., reported, ready for bids about April 15 for filling station 542 N. Carrollton Ave.; 1 story, brick.

Md., Baltimore—Greenwald, Inc., reported, has plans in progress for 1 story, 79x60 ft. garage, 1101 S. Brunswick St.; Kubitz & Koenig, Emerson Tower Bldg., Engrs.

Md., Baltimore—Maurice J. Schreiber, 1618 Moreland Ave., reported, erect filling station 2100 Frederick Ave.; 1 story; brick; 30x26 ft.; owner builds.

Md., Baltimore—Druid Park Apartment Co., care of Title Guarantee and Trust Co., reported, construct 15 garages Liberty Heights Ave. and Denison St.; 1 story; conc. block; J. George Bensel, 3005 Shannon Drive, Bldr.

Md., Baltimore—Shell Eastern Petroleum Products, Inc., Court Square Bldg., receiving bids for filling station Washington Blvd.; 1 story, brick and stone; bidders estimating are: Avon Construction Co., 216 E. Lexington St.; North-Eastern Construction Co., 6 W. Madison St.; J. Raymond Gerwig, 213 St. Paul St.; Mervis Construction Co., 1650 E. Fayette St. 12-25

Md., Baltimore—Northwestern Land Co., Harry Silver, Sec., 215 N. Calvert St., construct filling station 2125 Edmondson Ave.

Mo., St. Louis—Theo. Caine, 2722 N. Grand St., erect 1 story automobile sales room, 2555 N. Grand St.; comp. roof; steam heat; cost \$18,000; A. H. Haessler, B. & C. Co., 621 Wainwright Bldg., Bldr.

Mo., St. Louis—Loose-Wiles Biscuit Co., 120 S. Fifteenth St., reported, erect brick and struc. steel garage, Fourteenth St.; 1 story, 180x60 ft.

Mo., St. Louis—Goodrich Silvertown, Inc., Akron, O., reported, let contract to Kenton Constr. Co., Wainwright Bldg., for service station, Gravois and Potomac Sts.; 1 story, 112x80 ft. 4-2

N. C., Sanford—Leggett Chevrolet Co., capital \$50,000, incorporated; L. J. Bullard, W. M. Leggett.

Tenn., Memphis—F. E. Epscomb erect filling station, 604 Pennsylvania St. cor. Caroline St.; brick veneer with stone trim and comp. roof; install gasoline engine.

Tex., Angleton—Stewart Harris Motor Co., incorporated; W. G. Stewart, A. G. Harris.

Tex., Bellville—City Chevrolet Co., incorporated; James Scott, R. E. Lampe.

Va., Hopewell—Mike Christian construct building, Randolph and Cawsons Sts., to be occupied by Williams Motor Corp., 200 Poythress St., as oil station, repair shop and store room.

Tex., San Angelo—Firestone Service Stores, Inc., capital \$30,000, chartered; J. B. Hallman, R. M. Kimmel.

Gas and Oil Enterprises

Fla., Jacksonville—Deepwater Oil Refineries, Inc., First Natl. Bank Bldg., Houston, Tex., reported, selected Jacksonville as distributing point for company's products; leased storage tanks at Commodore Point; will ship by water from Texas refineries and transship by rail to Atlanta, Ga.; L. W. Smith, Jacksonville, will handle local business.

Fla., New Smyrna—City considering construction of gas plant; invites proposal from outside utilities in view of considering granting of franchise; J. C. Ferris, City Mgr.

Ky., Henderson — Junior Oil Co., capital \$80,000, incorporated; J. Wm. Hayns, John O'Donnell.

Ky., Munfordsville—Munfordsville Oil and Gas Co., capital \$10,000, incorporated; J. Harvey Snider, Homer Simmons.

La., Bunkie—S. M. Cantey, Agt., representing gas company having franchise, is completing arrangements for constructing pipe line, Bunkie, Marshville and surrounding towns.

La., Shreveport—Arkansas Natural Gas Corp., Shreveport, advises contract covering construction of approximately 66 miles of 8-in. oil line from Longview, Tex., to Shreveport, La., has been let to Ford, Bacon & Davis, Inc., 39 Broadway, New York; will also construct a 16,000-bbl. pump station near Longview; construction work in connection with the pump station will be performed by company personnel.

Md., Chesapeake City — Chesapeake Fuel Co., incorporated; Toward N. Loraine, Sr.; Willie R. Loraine.

Miss., Hattiesburg—City, W. S. F. Tatum, Mayor, reported, interested in formation of stock company to finance and construct pipe line to bring natural gas from Jackson field; authorized capital \$500,000; company to lease lands in proven gas system, etc.; city also received proposal from W. T. Moran, 3212 Calumet St., Houston, Tex., for natural gas franchise.

Mo., Boonville—Missouri Power & Light Co., started construction of natural gas system; has 14-yr. franchise.

Mo., Festus—Festus Fuel & Oil Co., incorporated; Harry Harmon, Festus.

Mo., Fulton—Mutual Gas Co., incorporated; J. W. Gallaher, Mexico; G. W. McLain, Fulton.

Mo., St. Louis—Crown Oil Co., incorporated; Walter T. Bohne, 615 Pine St.

Mo., Wellston—Stanley Oil Co., incorporated; Louis Levy.

N. C., Cherryville—Rulane Gas Co., Inc., capital \$100,000, incorporated; Malcolm McKinne, Louisville; D. M. Stout, Siler City.

Okla., Boynton—City, reported, plans \$30,000 gas distribution system.

Okla., Guthrie—Western Service Corp., Braniff Bldg., Oklahoma City, will open bids about May 10 for construction of distribution system, cost \$250,000, approximately 35 miles; Fred E. Salathiel, Constr. Engr., 610 Braniff Bldg., Oklahoma City.

S. C., Allendale—Southeastern Petroleum Co., capital \$60,000, incorporated; E. W. Hancock, A. H. Wilson.

S. C., Allendale—Southeastern Petroleum Co., Inc., chartered; W. E. Evans, 2830 Dvine St.

S. C., Allendale—Allendale Oil Co., incorporated; L. B. McEwen, A. H. Wilson.

Tenn., Nashville—United Gas Improvement Co., 1401 Arch St., Philadelphia, Pa., E. E. Hamilton, Asst. V.-P., advises the \$352,000 improvement this year for Nashville Gas and Heating Co., cover the completion of a 2,000,000 cu. ft. storage holder and extension of mains to reach new customers.

Tex., Amarillo—City, W. N. Durham, City Mgr., will probably reject bids for municipal gas system and will call new bids; probable date April 30; estimated cost \$1,000,000.

Tex., Austin—Scratch Ranch Royalty Co., capital \$75,000, incorporated; Gus F. Urbantke, Littlefield Bldg.

Tex., Brenham—Brenham Salt Dome Deep Test Oil Co., capital \$40,000, incorporated; J. H. Baker, H. L. Reese.

Tex., Coleman—Brek Oil Co., capital \$150,000, incorporated; V. A. Ekholm, T. E. Brown.

Tex., Dallas—D. & P. Prospecting Co. incorporated; Louis L. Dent, Northwest Highway.

Tex., DeLeon—City plans voting on gas plant bonds.

Texas—Ford, Bacon & Davis, Inc., Engrs., 39 Broadway, New York, advises that contract was let to Parkhill Truck Co., Inc., Tulsa, Okla., for hauling and stringing pipe and fittings on Schedule No. 7 of Continental Construction Corp.'s 24-in. gas pipe line from Texas field to Chicago, Ill.

Tex., Fort Worth—Sabine Gas Oil Co., incorporated; David B. Trammell, Ft. Worth Natl. Bldg.; Lloyd E. Price.

Tex., Fort Worth—Shamrock Oil and Gas Co., Pittsburgh, Pa., reported, negotiating with city for supply of gas; also applied for permission to construct natural gas distribution system.

Tex., Fritch—The George H. Siedhoff Construction Co., Hotel Broadway, Wichita, Kansas, has labor contract in connection with construction of compressor station for Continental Construction Co., Professional Bldg., Kansas City, Mo.; owner furnishes materials.

Tex., Greenville—Greenville Oil and Gas Co., capital \$15,000, incorporated; L. W. Debenham, Troy Jones.

Tex., Longview—Flanagan Production Co. incorporated; H. N. Morris, M. T. Flanagan.

Tex., Rising Star—City, W. E. Taylor, Mayor, voted in favor of municipal owned gas system.

Tex., Stephenville—Land & Royalty Corp., G. D. Terrien, V. P. and Mgr., Philcade Bldg., Tulsa, Okla., reported, granted 25 yr. natural gas franchise; will construct 15 mile line from Exray pool to Stephenville.

Va., Charlottesville—Ohio Fuel Gas Co., 99 N. Front St., Columbus, Ohio, reported, applied to city for permission to make estimate on city's gas properties with view to purchasing.

Ice and Cold-Storage Plants

Md., Union Bridge—Carl L. Ritter, 57 Park Ave., erect 1 story ice plant; owner builds.

Mo., Cape Girardeau — Mississippi Gulf Holding Co., Tampa, Fla., B. F. Bagby, representative, reported, contemplates series of waterways, cold storage plants and terminal warehouses to be built along the Mississippi River from New Orleans, La., to St. Louis; has site under option foot of Broadway; company has under construction 2 Diesel powered boats.

Mo., St. Louis—West End Ice Co., 120 Chouteau St., erect 1 story ice mfg. plant at 3945 Easton St.; 75x80 ft.; tar and gravel roof; Martin P. Rosenmeyer, Bldr., 1548 S. Vandeventer St.

Tex., El Paso—Thomas F. Blanco, 1300 Magoffin Ave., and Edgar Held, reported, plans \$10,000 improvements to ice plant, 511 N. Virginia St.

Tex., Fort Worth—Edward F. Mann, 502 Cotton Exchange Bldg., reported, plans organizing company with \$60,000 capital; establish plant, capacity 10 tons, manufacture ice by carbon dioxide method.

Tex., Hearne—Citizens Ice Co., incorporated; Glen Sample, O. G. Hudson.

Land Development

Ark., Little Rock—John Nolan and Justin R. Hartzog, Architects, Cambridge, Mass., reported, preparing plans for development of Allsopp Park in Pulaski Heights.

Fla., Jacksonville—Glen Iris Investment Corp., incorporated; J. L. Murphy, Jr., Barnett Bldg.

Fla., Jacksonville—City plans voting in summer on bonds for park improvements.

Fla., Miami Beach—H. W. Thomas, Engr., agent for F. C. B. LeGro, 512 N. E. 15th St., plans building island for club and residence development in Biscayne Bay north of Seventy-ninth St. causeway; will dredge, fill in and bulkhead proposed island.

Fla., Orlando—Florida Pioneer Corp. incorporated; J. W. Burke, 3206 Fairway Ave.

Fla., Winter Garden—Columbia Growers Co., incorporated; A. B. Kannon, B. Kannon.

Md., Baltimore—Headquarters Third Corps Area, office of Q. M., 311 St. Paul Place, receives bids April 24 for repairs to Loudon Park National Cemetery.

Mo., Clayton—John H. Soell Realty Co., incorporated; John H. Soell, John B. Soell.

Mo., Kansas City—Setzler Estate Co., capital \$25,000, incorporated; Edw. A. Setzler, 1319 Commerce Bldg.

Mo., Kansas City—Twelfth and Walnut Realty Co., incorporated; M. M. Reardon, 4260 Bellevue St.

Mo., Overland—C. Reinemer Realty Co. incorporated; Conrad Reinemer, John M. Jacobs, Jr.

Mo., St. Joseph—Mid-West Memorial Park Cemetery Co., capital \$50,000, incorporated; Roy O. Lindsay, Dr. Harry Baum.

Mo., St. Louis—Granlin Estate Co., capital \$60,000, incorporated; Herbert F. Church, 960 Beach St.

Mo., St. Louis—Remare Realty and Investment Co. incorporated; John D. Cramer, 5820A Vivian Ave.

Okla., Tulsa—City, Will O. Doolittle, Supt. City Parks, plans development of east side park.

N. C., Asheville—Irwin Investment Co., capital \$100,000, incorporated; Irwin Monk, Technical Bldg.

N. C., Asheville—Randolph Farms Co., capital \$100,000, incorporated; Arthur Ross, W. L. Lambert.

S. C., Charleston—Delta Realty Co., incorporated; W. A. McIlwaine, 69 Broad St.

Tex., Eagle Pass—J. K. Wilson, Claude Yeager develop 10,000 acre fruit farm.

Tex., Greenville—Exchange Land Co., capital \$50,000, incorporated; L. A. Clark, W. B. Wise.

Tex., Harlingen—Adams Gardens, Inc., Chas. F. F. Ladd, Developer, advises regarding development of 9400 acres citrus orchard lying north and south of main Valley highway; Spanish type administration building and mess hall have been constructed, Smith & Galbreath, Contr., Harlingen; work will soon begin on conc. lined artificial lake to cover area of 50 acres; lake will form part of irrigation system and will be supplied with fresh water; an independent water district is being formed and as soon as necessary steps are made construction of an irrigation system will be begun; A. Tamm, Engr., Harlingen, will have charge of construction of this system; the holding company is the Cameron County Investment Co.; and colonization and development work in charge of Chas. F. C. Ladd; lands will be sold in the brush and contract has been made with Adams Gardens Nursery Corp., Banks L. Miller, San Juan, Pres., to handle development work for purchasers.

Va., Castlewood—Saylor Farms, Inc., capital \$25,000, incorporated; B. B. Saylor.

Va., Doyleville—Coveland Orchards, Inc., capital \$50,000, incorporated; Chesley A. Haden.

Va., Norfolk—City received low bid at \$11,190 from R. R. Richardson & Co., Natl. Bank of Commerce Bldg., for construction of administration building and storage building at Elmwood Cemetery; will construct 35-ft. roadway.

Lumber Enterprises

D. C., Washington—Frank Libbey & Co., Fifth, Sixth and New York Ave., N. W., reported, acquired building at 621-633 New York Ave. for plant; will remodel to serve as warehouse, office and mill.

Ky., Murray—Calloway County Lumber Co., incorporated; O. L. Sharborough, Philip A. Rogers.

Metal-Working Plants

Md., Baltimore—Following have sub-contracts in connection with erection of plant, Fleet and Haven Sts., for Katzinger Co. (bakers equipment), 1949 Cicero Ave., Chicago, Ill. (local branch known as August Maag Co.); Enterprise Steam & Hot Water Heating Co., 619 W. Franklin St., for heating; H. E. Crook Co., 28 Light St., for plumbing; Kingsbury-Samuels Electric Co., 530 N. Calvert St., for electric work; McClintic-Marshall Co., Baltimore Trust Bldg., for reinforcing steel; Dietrich Bros., 200 E. Pleasant St., for misc. steel and iron; Detroit Steel Products Co., Fidelity Bldg., for steel sash; Pittsburgh Plate Glass Co., Pittsburgh, Pa., for glass.

Mining

Ark., Harrison—Silica Products Co., D. D. Dunkin, Pres., reported, plans improvements to silica mines at Everton, contingent on adjustment of freight rates.

Ark., Magnet—Paul E. Williams, 14 Wall St., New York, Herman Cornell, Philtower Bldg., and M. S. Williams, Jr., both Tulsa, Okla., reported, interested in development of barite mine near here; may expend \$200,000 for mining machinery; power line to be extended by Arkansas Power & Light Co., Little Rock, to mine.

Ga., Aubrey—G. W. Hauck, Pres., Mangane Corp. of America, reported, acquired properties of Georgia Iron & Manganese Co. at Aubrey; Robert T. Jones, and Arthur G. Powell, both Atlanta Trust Bldg., Atlanta, negotiated transaction.

Ga., Cartersville—E. J. Lavino & Co., Bul-
litt Bldg., Philadelphia, Pa., reported, has op-
tion with right to test for manganese deposits
5000 acres land owned by Etowah Develop-
ment Co., in Bartow County. 2-26

Mo., Iantia—Barton County Rock Asphalt
Co., capital \$16,000, incorporated; J. E.
Wicker, Liberal; Joe S. Gill, Liberal.

Okla., Tulsa—General Metals Corp., W. H.
Owens, Wright Bldg., reported, organized as
holding company for Mexican corporation;
develop gold mines; soon install new equip-
ment.

Tex., Hockley—Houston Salt Co., Esperson
Bldg., Houston, Carter Stewart, Pres., Gainer
B. Jones, Sec., 1736 Sunset Blvd., developing
salt mine; has under lease approximately
1000 acres at Hockley with mine about 32
miles from Port of Houston; has constructed
shaft for maximum capacity of 350 tons salt
daily while permanent unit is designed to
treat 100 tons salt an hour; cost of main
plant \$300,000; Houston & Texas Central
R. R., subsidiary of Southern Pacific Lines in
Texas & La., R. W. Barnes, Ch. Engr., re-
ported, filed application with Interstate Com-
merce Com'n. for permit to build a spur from
its main line to salt mine.

W. Va., Wheeling—Independent Sand Co.,
reported, let contract to Dravo Contracting
Co., Neville Island, Pittsburgh, Pa., for 200
tons plates and shapes for 2 barges.

Miscellaneous Construction

D. C., Washington—James Baird Co., 211
E. Capitol St., has contract for District of
Columbia World War Memorial; Frederick
H. Brook, Archt., 1218 Connecticut Ave. 3-26

Fla., Miami Beach—H. W. Thomas, Engr.,
has approval from city, now applying to U. S.
Engr. Office, Jacksonville, for permission to
construct island in Bay north of 79th St.
causeway; to be developed by Northern capi-
talists for residential colony; work to include
bulkhead around island, dredging and filling,
etc.

Louisiana—U. S. Engr. Office, foot of Pry-
tania St., New Orleans, opens bids Apr. 21
for 145,000 cu. yd. earthwork, New Mon-
secur Levee, Mississippi River; 150,000 cu.
yd., New Fairview Levee; 50,000 cu. yd.
Pecan Grove Levee, all in Lake Borgne Levee
Dist.; 1,345,000 cu. yd. new levee, Picayune-
ville Levee; 275,000 cu. yd. enlargement
Picayuneville Levee New; 450,000 cu. yd.,
Lower Morganza Levee enlargement, all in
Atchafalaya Levee Dist.; 865,000 cu. yd. new
and 1,055,000 cu. yd. enlargement, Plaque-
mine Point Levee; 150,000 cu. yd., New
Oneida Levee; 565,000 cu. yd., New Gray-
ville Reserve Levee Dist., all in Pontchar-
train Levee Dist.; 665,000 cu. yd., Elkridge-
White Oak Levee Enlargement, Lower Tensas
Levee Dist.

Louisiana—U. S. Engr. Office, Second New
Orleans Dist., foot of Prytania St., New Or-
leans, let contracts for earthwork: 375,000
cu. yd., Mississippi River, Highways Construc-
tion, Inc., Godchaux Bldg., New Orleans.
\$52,125; 370,000 cu. yd., Fairfield Levee and
370,000 cu. yd., Davis Louisa Levee, Missis-
sippi River, Lower Coast Construction Co.,
Godchaux Bldg., New Orleans, \$97,680.

Louisiana—U. S. Engr. Office, Second New
Orleans Dist., foot of Prytania St., New Or-
leans, let contract to McWilliams Dredging
Co., Canal Bank Bldg., New Orleans, at
\$389,278, for 3,020,000 cu. yd. levee work.
Bordelonville West Levee. 3-26

La., Harvey—U. S. Engr. Office, First New
Orleans Dist., Poland and Dauphine Sts.,
New Orleans, has low bid from C. F. Lytle,
Sioux City, Ia., at \$668,216 for clearing site,
constructing sheet pile cofferdam, excavat-
ing, driving foundation piling and sheet
pile cut-off walls, constructing conc. lock
walls and floors, including rein. steel and
constructing temporary open-deck timber
pile trestle under tracks of Texas Pacific-
Missouri Pacific Terminal R. R. of New
Orleans, providing maintenance on trestle,
etc., in connection with lock to be con-
structed in Mississippi River. 3-12

La., Lake Charles—Bd. of Commrs. of Lake
Charles Harbor & Terminal Dist. employed F.
Shutts & Sons, Engrs., 921½ Ryan St., Lake
Charles, to draw plans for \$700,000 dock
building program; add approx. 1600 ft. more
of sheds and 2000 ft. of additional wharves;
to be complete by early fall.

Mississippi—U. S. Engr. Office, P. O. Box
667, Vicksburg, Miss., let contract for earth-
work: 1,215,664, bids rejected, performance
by government plant and hired labor; 446,600
cu. yd., W. L. Gary, Vicksburg, 23.89 cents;
682,476, same contractor, 17.89 cents; 706,000
cu. yd., Yale & Reagan Co., and Benson
Kaiser & Co., 408 Olive St., St. Louis, 27
cents. 3-19

Mississippi—J. H. Morrow, Vicksburg, and
Greenville Construction Co., Greenville, have
sub-contracts for 400,000 cu. yd. levee; Yale
& Reagan Co. and Benson-Kaiser Co., both
Merchants-Laclede Bldg., St. Louis, Mo., Gen.
Contrs. 4-2

Missouri—U. S. Engr. Office, Custom House
St., Louis, let contracts for dikes: 5000 ft.
piling dikes, Cora Island, Woods Bros. Con-
struction Co., 132 S. 13th St., Lincoln, Neb.,
\$261,196; 7700 ft. piling dikes, Augusta
Bend, Massman Construction Co., American
Bank Bldg., Kansas City, \$345,057.

Mo., Kansas City—Pla-Mor, Lyle L. and
Paul M. Fogel, 3142 Main St., let contract
to Fogel Construction, Gen. Contr., Reliance
Bldg., and E. W. Bacharach & Co., Rialto
Bldg., filter contractor, for \$150,000 swim-
ming pool; S. H. Steben, of Charles A.
Smith architectural firm, Archt., Finance
Bldg.

Mo., Kansas City—Atchison, Topeka &
Santa Fe Ry., G. W. Harris, Ch. Engr., Chi-
cago, Ill., let contract to John S. Metcalf
Co., 111 W. Jackson Blvd., Chicago, for
\$750,000, 4,000,000-bu. addition to 6,002,500-
bu. elevator in Argentine Dist.: 2 units of
2,000,000 bu. each; 96 tanks to require driv-
ing of 750 creosoted piles; first unit to be
ready by July 1, other by July 15; starting
construction; Davis-Noland-Merrill Grain Co.,
George H. Davis, Pres., Lessee.

Mo., Kansas City—Missouri Pacific R. R.
Co., E. A. Hadley, Ch. Engr., advises that re-
ports relative to increase in capacity of 2
Missouri grain elevators here are without
foundation; have no authority at this time to
enlarge either Eagle or Kansas-Missouri ele-
vator. 4-9

Mo., Kansas City—Chicago, Burlington &
Quincy R. R. Co., H. G. Dalton, Engr. of
Buildings, Chicago, advises regarding recent
reports regarding plans for addition to grain
elevator: "We are not planning any addi-
tion at this time to this elevator." 4-9

Mo., South St. Joseph—U. S. Engr. Office,
Postal Telegraph Bldg., Kansas City, has
low bid from Massman Construction Co.,
American Bank Bldg., Kansas City, at \$40,-
922 for 1500 lin. ft. standard pile clump
dikes, Missouri River, Contrary Bend, 3 mi.
from here. 4-2

Tenn., Memphis—Mississippi Valley Barge
Line Co., Carl J. Baer, V.-Pres., 408 Pine St.,
St. Louis, advises regarding recent reports,
"We do not intend to build a terminal at
Memphis."

Tenn., Memphis—U. S. Engr. Office, Mc-
Call Bldg., has low bids for 5,223,000 cu. yd.
earthwork (flood control, Mississippi River
and tributaries), designated as follows by
item number, kind of work, approx. quan-
tity (cu. yd.), bidder, price bid: Upper
St. Francis Levee Dist.—4H, enlargement
and new, 200,000, J. J. McCaughey Co. and
States Contracting Co., 205 W. Wacker Dr.,
Chicago, Ill., \$34,800; 4I, enlargement, 47,000,
J. J. McCaughey Co. and States Contracting
Co., \$5178; Upper Zazoo Levee Dist.—35A,
restore sunken levee, 16,000, Elmer Hixson
Paris, Ark., \$4800; 28A, enlargement and
new, 680,000, Noble, Crow & Lowrance,
Fayette, Miss., \$112,200; 28B, new, 960,000,
J. J. McCaughey Co. and States Contracting
Co., \$147,840; 28C, new, 910,000, J. J. Mc-
Caughey Co. and States Contracting Co.,
\$140,140; 28A, 28B and 28C combined, 2,550,-
000, Brooks-Calloway Co., Healy Bldg., At-
lanta, Ga., \$344,250; 28B and 28C combined,
new, 1,870,000, E. F. Powers Construction
Co., Harvey Bldg., West Palm Beach, Fla.,
\$269,280; 14A, enlargement, 900,000, L. A.
Wilson & Co., Inc., Ottawa, Ill., \$221,400;
White River Levee Dist.—43-C, Section,
new, 1,510,000, W. T. Price, Inc., 3200 S. W.
Seventh Ave., Miami, Fla., \$330,690; 42-B,
Section, new, 1,200,000, Canal Construction
Co., Box 1516, Memphis, Tenn., \$326,400. 3-12

Texas—Retaining Wall—See Roads, Streets
and Paving.

Tex., Dalhart — Welch Bros., reported,
erect grain elevator on industrial tracks of
Chicago, Rock Island & Pacific.

Tex., Port Arthur—City Com'n. let con-
tract to J. A. Root at \$13,500 for 2 mi. dirt
levee along K. C. S. tracks, to form part
of seawall around city.

Tex., Fort Worth—Kimball Milling Co., Kay
Kimball, Pres., 2100 S. Main St., let contract
to Jones-Hettelsater Construction Co., Mutual
Bldg., Kansas City, Mo., at \$100,000, for
700,000-bu. grain elevator addition.

Tex., Texas City—U. S. Engr. Office, Gal-
veston, opens bids May 6 for rubble mound
dike 7 ft. high, on existing Texas City dike
south of existing close-driven piles, by plac-
ing approx. 46,000 tons core stone and 57,200
tons cover stone.

Virginia—Chesapeake & Ohio Ry. Co., C. W.
Johns, Ch. Engr., Richmond, let contract to
Sturm & Dillar, Columbus, Ohio, for enlarg-
ing and relining Lakes tunnel at Backbone.
\$306,000. 4-9

Va., Portsmouth—Norfolk Navy Yard, R.
D. Spalding, Public Works Officer, let con-
tract to J. L. Smith, Building and Loan
Bldg., at \$25,904, for conc. pier, Norfolk
Naval Hospital. 4-9

Miscellaneous Enterprises

Ark., Fort Smith—City voted \$100,000
bonds for fire fighting equipment. 2-12

D. C., Langdon Sta., Washington—Stand-
ard Brands, Inc., 316 T. N. E., reported, let
contract to Schneider-Spliedt Co., 1416 F St.,
Washington, Bldg. for alterations to plant;
cost \$15,000.

D. C., Washington—Z. B. Groves, Falls
Church, Va., reported, has contract for dairy
4115 Kansas Ave. for Fred Hughes, Pooles-
ville, Md., Perry D. Gibson, Lessee; 1 story,
brick, slag roof, metal ceiling, conc. floor.

D. C., Washington—Dept. of Commerce,
Bureau of Standards, receives bids April 18
for 2 sections of welded pipe 8 ft. in diam.
lengths totaling about 28 ft. and including
two 45 degree bends, also for two sections
of pipe 3 ft. in diam. lengths totaling about
40 ft. and including three 45 degree bends;
welded flanges are included; will soon issue
proposals for 19 special pipe fittings and sec-
tions of pipe to be constructed of welded
steel plate, and diameters ranging from 12 to
30 inches for installation in National Hy-
draulic Laboratory. See Want Section—Bids
Asked. 3-19

D. C., Washington—W. P. Rose, Goldsboro,
N. C., reported, low bidder at \$298,400 for
constructing National Hydraulic Laboratory,
bids opened April 7. 4-2

Fla., Clewiston—Clewiston News, Inc., capi-
tal \$15,000, incorporated; L. A. and O. E.
Morgan.

Fla., Jacksonville — Jacksonville Home
Builders, Inc., chartered; C. M. Doty, 132 E.
Ashley St.

Fla., Miami—Lakeland Creamery, Inc., in-
corporated; J. C. Pereno, Congress Bldg.

Fla., Miami—Tropical America Laborato-
ries, Inc., capital \$20,000, incorporated; O. R.
Clements, Congress Bldg.

Fla., St. Petersburg—Shippers Equipment
Co., H. E. Wendell, Pres., 18th Ave. and
Fourth St., S., installing equipment for man-
ufacture of new line of shipping containers
of wood, paper, veneer and metal of various
shapes.

Fla., West Palm Beach—Parry Rock & Sand
Co., Inc., chartered; V. D. Stone, Harvey
Bldg.; manufacture curbed rock, etc.

Ga., Atlanta—National Biscuit Co., 449 W.
14th St., New York, reported, receives bids
after June 1 for construction baking plant
addition Magnum and Elliott Sts.; cost \$500,-
000. 4-2

Ga., Atlanta—Cluett Peabody, Inc., C. R.
Palmer, Mgr., 330 Fifth Ave., New York,
reported, contemplates addition to plant 1822
Murphy Ave., S. W.; cost \$175,000.

Ga., Savannah—Atlantic Creosoting Co.,
Inc., Navy Yard Annex, Norfolk, Va., re-
ported, plans improvemens and enlargements
to plant of Savannah Creosoting Co., Port
Wentworth, recently leased.

Ky., Frankfort—Union Underwear Co.,
Indianapolis, Ind., reported, considering es-
tablishment of plant; city to subscribe \$75,-
000 for erection of building.

Ky., Irvine — Hamilton-Carhartt Overall
Co., 1605 Michigan Ave., Detroit, Mich., re-
ported, call for bids about May 1 for factory
building with 30,000 sq. ft. floor space; site
not selected; factory will be of fireproof con-
struction; brick and steel with saw-tooth
roof; John T. Gillig, Churchill & Gillig,
Archts., Fayette Bank Bldg., Lexington. 3-26

Ky., Louisville—Kentucky News Publishing
Co., incorporated; J. Ward Lehigh, 2514 S.
4th St.; W. B. Lehigh, W. J. Hegan.

La., Baton Rouge—A. C. Stewart, 810 E.
Blvd. Baton Rouge, reported, has contract at
\$81,900 for construction of 2 story, rein. conc.
and brick creamery for Louisiana Creamery,
Inc., L. S. U. Campus; Craft-Rushworth, Ltd.,
1449 Florida St., Baton Rouge, contract for
plumbing and heating; Evans Bros., Ltd., Ma-
sonic Bldg., for electrical work. 4-9

La., New Orleans—Consumers Gravel Co.,
Inc., capital \$30,000, incorporated; Wm. L.
Stevens, 1017 Peniston St., Roland A. Thomas.

La., New Orleans—A. M. Fromherz, Queen
and Crescent Bldg., has contract for improv-
ements to building for Ancona Bakery, 1010
Mary St. between Magazine and Constance
Sts., opens bids April 17 for sub bids and
materials, including msh. iron, marble and tile
work, millwork, steel sash, metal doors, fold-
ing gates, metal lathe, heating system, sprin-
kler system, electric wiring system, etc.; Jones,
Roessle & Olschner, Archts., Maison Blanche
Bldg.

La., New Orleans—Paper Makers' Chemical Corp., Kalamazoo, Mich., reported, acquired Marrero plant of Georgia-Louisiana Corp.; plant has been used for preparation of alum for water filtration purposes and for use in manufacture of paper; will probably add equipment for manufacture of sal soda, soap powder, etc.

La., New Orleans—Bates Valve Bag Co., subsidiary of St. Regis Paper Co., 15 Broad St., New York, reported, leased plant, cost \$200,000, at S. Jefferson Davis Parkway and New Basin Canal; to be erected by Hortman-Salmen Co., Inc.; capacity of 12,000 tons finished products, annually.

La., Winfield—Union Paving Co., Broad & Stiles Sts., Philadelphia, Pa., reported, constructing \$50,000 factory at Carla, for manufacture of patented road material; products to be used on secondary roads in Louisiana.

Md., Baltimore—Jacob I. Rosenfeld, Lynn, Mass., reported, acquired building 2116-26 Madison Ave., remodel for laundry and dyeing; install machinery.

Md., Baltimore—Fay Products Laboratories, Inc., 2 West Twenty-second St.; incorporated; Gustave G. Fay, 2326 N. Charles St.

Md., Baltimore—Maryland Ferry Co., capital \$350,000, incorporated; George J. Adams, Lansdowne, Pa.; plans operating passenger and freight ferry service between Baltimore and Love Point.

Md., Baltimore—Jersey Ice Cream Co., 1726 E. Pratt St., reported, have plans ready for bids soon for addition to plant 122 S. Ann St.; 2 story; 100x185 ft.; brick, steel and conc.; McCormick Co., 121 S. Negley St., Pittsburgh, Pa., Engrs. 12-25

Md., Darlington—Following contractors estimating on buildings at Indian Springs Farm, for Donald Symington, Baltimore Trust Bldg., Baltimore: W. T. Bailey, Church Hill; Wm. H. Sands, Towson; DeCou and Chidlaw, Eutaw & Biddle Sts.; Tase-Norris, Inc., 903 Cathedral St. and L. L. Chambers, Inc., 36th St. and Roland Ave., all of Baltimore; buildings consist of 3 cow barns; combined feed and silo barn; 3 retaining walls; water reservoir; manure drain tank; septic tank and dry well; bids opened April 15; W. S. Austin, Const. Engr., Maryland Trust Bldg., Baltimore. 10-2

Mo., Kansas City—Merkle Contracting Co., capital \$100,000, incorporated; E. J. Merkle, City Bank Bldg.

Mo., Springfield—Ice Refrigerator Co. incorporated; Clyde Hammond, 1104 E. Commercial St.

Mo., St. Louis—Midwest Industrial Development Co., 231 S. La Salle St., Chicago, Ill., erecting building to be occupied by Star-Chronicle Publishing Co., at High, Morgan and 12th Sts.; will soon take bids on superstructure; building will be 5 story, basement and sub basement; 20x168 ft.; rein. conc., brick and stone; F. D. Chase, Inc., Archt., 720 N. Michigan Blvd., Chicago, Ill.; contract for excavating and footings let to G. L. Tarlton Co., 411 N. Seventh Ct. 4-2

Mo., St. Louis—Od Peacock Sultan Co., formed by consolidation of Od Chemical Co., 61 Barrow St., New York, Peacock Chemical Co. and Sultan Drug Co., both 112 N. Second St., St. Louis; will erect building S. W. Cor. Parkview Place and Taylor Ave., by August 1 for manufacture pharmaceutical preparations.

Mo., St. Louis—Jiffy Valve Cap Co., incorporated; Otto F. Karbe, P. J. Walsh, Rialto Bldg.

Mo., Warsaw—Lake of the Ozarks Boat Co., capital \$50,000, incorporated; Ray L. Cargill.

Mo., Weston—Platte County Tobacco Warehouse Corp. incorporated; George Z. Hull, Weston.

N. C., Kinston—Poplin Cigar Co., capital \$50,000, incorporated; J. D. Poplin, R. A. Poplin.

N. C., High Point—William-Norris Co., incorporated; E. S. Parker, Jr., Jefferson Bldg., Greensboro; paints, etc.

Tenn., Knoxville—MacDonald Steamotor Co., P. O. Box 1335, with main office and plant in Knoxville, granted charter, capitalized at 25,000 shares of no par value; has taken over all of patents of T. J. MacDonald, covering steam washing machine and other steam operated devices of which T. J. MacDonald is the inventor; T. J. MacDonald is Pres.; S. M. Henderson, Sec. Treas.; factory will be in operation by May 1. See Want Section—Machinery and Supplies.

Tenn., Nashville—Dr. Pepper Bottling Co. plans expending \$50,000 for equipment to plant Cor. Thirteenth Ave. and Grundy St.; also plans plants in eastern section Tennessee; company advises improvements postponed indefinitely.

Tex., Archer City—Archer Capon Farm and Hatchery, capital \$17,000, incorporated; G. B. Purcell, C. L. Davis.

Tex., Cleveland—C. H. Turner and H. G. Smith plan building 20,000 bu. sweet potato plant.

Tex., Dallas—Guiberson Corp., S. A. Guiberson, Jr., Pres., Forest St., plans establishing plant for manufacture airplane Diesel engine.

Tex., Gatesville—Moore Implement Co., incorporated; W. G. Moore, H. S. Compton.

Tex., Houston—Green & Green, Inc., 2000 Providence St., erecting \$40,000 fruit flavoring plant; conc. and steel.

Tex., Loraine—Tom Durham, establish weekly paper in Mitchell County.

Tex., Paris—Paris Dr. Pepper Bottling Co., capital \$15,000, incorporated; G. H. Wilcox, C. I. Wilcox.

Tex., Ranger—Sam Houston Life Insurance Co., Sam Houston Life Insurance Building, capital \$100,000; incorporated; L. C. G. Buchanan, Pres.; W. S. Adamson, Sec.

Tex., San Antonio—Sealy Mattress Co., 411 N. Flores St., reported, acquired conc. building at 1002 S. Medina St., for mattress plant; plans \$280,000 expansion program.

Va., Lynchburg—Bedford-Johnson Co., Inc., 12th St. and Campbell Ave., Lynchburg, and Hercules Clothing Co., Columbus, O., reported, considering merger.

Va., Roanoke—Littlejim Laboratories, Inc., capital \$25,000, incorporated; C. B. Cole.

Va., West Point—Pamunkey Packing Corp., capital \$15,000, incorporated; W. P. DeShazo.

W. Va., Clarksburg—Flat Glass Specialty Co. incorporated; L. S. Horner, Pres.; L. A. Johnson, Sec., Union Bank Bldg.; heavy sheet glass and colored flat glass; fourcalt process.

Motor Bus Lines and Terminals

Fla., Jacksonville—Nieuport B. Estes, V. P. and Gen. Mgr., southeastern division of Colonial-Atlantic-Pacific Stages, Inc., reported, leased McCants-Hall Bldg., Adams and Julia Sts., for establishment of union bus terminal station for majority of bus lines operating in and out of Jacksonville; will expend \$18,000 for improvements; first floor will be used for bus terminals, second and third floors for club and gymnasium; plans by Mellen C. Greeley, Archt., 32 W. Forsyth St., Jacksonville; soon call for bids.

La., Franklinton—Ralph H. Privette, Baton Rouge, reported, granted permission by Louisiana Public Service Comsn. to operate bus line from Covington to Mississippi line through Franklinton.

Maryland—Public Service Comsn., Baltimore, granted transportation permits to operate trucks from Baltimore to Frederick over Liberty Rd. by way of Libertytown and Taylorsville to Otto Beal, Fairmont, Maryland Transportation Co., Frederick, and Tidewater Lines, Inc., S. E. Cor. Sharp and Pratt Sts., Baltimore.

Md., Salisbury—Eastern Shore Transit Co., operating passenger motor service from Salisbury to points in Accomac and Northampton counties, applied to State Corporation Comsn., Richmond, Va., for permission to extend service to Cape Charles and Norfolk.

Mo., Wellston—Public Service Comsn., Jefferson City, reported, granted permission to Joseph Mercier, Otto Christensen and Paul Delao to transfer bus line operating between Wellston and Ramona Park in St. Louis county to Wellston-Ramona Motor Bus Line, Inc.

Tenn., Memphis—Dixie Greyhound Lines and Smith Motor Coach Lines, 144 N. Front St., reported, start work in about 2 weeks on \$200,000 garage and office building northwest cor. Adams and High St.; Jones & Furbinger, Archt., Porter Bldg., completing plans. 3-12

Tex., Fort Worth—Northern Texas Traction Co., applied to Texas Railroad Comsn., Austin, for permission to operate interurban bus service between Fort Worth and Cleburne.

Va., Norfolk—Atlantic States Transit Corp. incorporated; Robt. W. Shultice, Law Bldg., Norfolk.

Va., Williamsburg—Peninsular Transit Corp. applied to State Corporation Comsn., Richmond, for permission to operate passenger bus service, Williamsburg to Yorktown and Jamestown.

Railways

Fla., Panama City—City authorized by Interstate Commerce Comsn., Washington, to construct 4 1/2 mi. railroad track in connection with plan to develop Bay Harbor.

Okla., Felt—Atchison, Topeka & Santa Fe Ry. Co., G. W. Harris, Ch. Engr., let contract to Sharp & Fellows Contracting Co., 533 Central Bldg., Los Angeles, Calif., for line, Felt, to Clayton, N. M., 23.7 mi., and from Mt. Dora, N. M., to Gladstone, N. M., 35.6 mi.; use line of Colorado & Southern Ry., under trackage agreement, Clayton to Mt. Dora, 17.38 mi.; construction starting immediately with completion date latter part of 1931. 4-2

Texas—St. Louis Southwestern Ry. Co., W. S. Hanley, Ch. Engr., Tyler, permitted by Interstate Commerce Comsn., Washington, to withdraw application to build line, Van Junction to Van. 2-20-30

Tex., Eagle Pass—Winter Garden Belt Ry. Co., W. O. Fitch, Eagle Pass, recently formed, applied to Interstate Commerce Comsn., Washington, for permission to construct 70-mi. line, Eagle Pass to Asherton, in connection with \$6,000,000 irrigation project along Mexican border. 3-26

Tex., San Angelo—Southern Pacific Co., H. M. Lull, Exec. V-Pres., Houston, Tex., advises date for taking bids for line of Gulf & West Texas Ry., a subsidiary, is indefinite. 4-9

W. Va., Gilbert—Virginian Ry. Co., A. M. Traugott, Ch. Engr., Norfolk, Va., taking bids, let contract in May for 14-mi. link of Guyan branch, between Elmore and Gilbert. 4-9

Railway Shops and Terminals

Fla., Pensacola—Louisville & Nashville R. Co., W. H. Courtenay, Ch. Engr., Louisville, Ky., let contract for 6 storage tanks for whale oil from ocean steamships; 2 to have 500,000 gal. capacity, 4, 250,000 gal. each.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Alabama—State Highway Dept., Lan G. Smith, Highway Director, Montgomery, has low bid from Carter Construction Co., 923 Carter St., Chattanooga, Tenn., at \$85,137 for 7.025 mi. paving, Atmore to Perdido Station, FAP 226-B, Escambia County. 4-2

Ala., Birmingham—City Comsn. adopted ordinance authorizing conc. paving 16th St., \$10,000.

D. C., Washington—District Highway Dept., Capt. H. C. Whitehurst, Ch. Engr., plans widening one block, E St., 40 to 76 ft.

D. C., Washington—District Comms., District Bldg., opens bids Apr. 28 for (a) furnishing about 16,000 tons bitum. conc. mixture for cold patching, (b) repairing about 30,000 sq. yd. cement conc. roadway and alley pavement with cement conc., (c) repairing about 50,000 sq. yd. cement conc. sidewalk with cement conc. and (d) repairing about 60,000 sq. yd. asphaltic pavement with asphaltic materials and about 45,000 sq. yd. cement conc. base.

D. C., Washington—District Comms., District Bldg., opens bids April 27 for improving New York Ave., N. E., 30,000 sq. yd. cement conc. and 23,000 sq. yd. asphaltic pavement or alternate; also for paving and resurfacing about 76,500 sq. yd. of unimproved and asphaltic streets and avenues with sheet asphalt conc. base or alternate.

Florida—State Road Dept., Robt. W. Bentley, Chmn., Tallahassee, has low bid from Rutherford Construction Co., Lake Wales, at \$332,589, for 8.70 mi. conc., F-60-C, Volusia County. 3-26

Fla., Miami Beach—City, C. W. Tomlinson, Clk., opens bids Apr. 22 for 4573 sq. yd. sidewalk, Flamingo Park.

Georgia—State Highway Bd., J. W. Barnett, Chmn., Atlanta, reported, opens bids between Apr. 25 and 30 for highway work involving \$2,000,000.

Ky., Hickman—City, John Plye, Mayor, plans resurfacing streets.

LOUISIANA—State Highway Comsn., O. K. Allen, Chmn., Baton Rouge, opens bids Apr. 21 for 4 roads in following counties:

St. John—grading, surfacing with washed gravel ballast, Carroll Levee Highway, Route 30, Proj. L-37; 1.8 mi. grading, washed gravel ballast surfacing, Columbia Levee Highway, L-38;

Plaquemines—0.8 mi. grading, shell surfacing, Monsecur Levee Highway, Route 1, LB-14; 0.4 mi. grading, shell surfacing, Collette Levee Highway, Route 1, LB-15.

La., Ferriday—City. P. H. Corbett, Mayor, expend approx. \$35,000 paving 15 blocks; J. B. McCrary Co., Citizens & Southern Bank Bldg., Atlanta, Ga., and Baton Rouge, completed surveys and prepared plans and estimates. 3-19

La., Lafayette—City Trustees have tentative plans submitted by L. J. Voorhies, Engr., 550 Campus Hill, Baton Rouge, for second street paving program.

La., Many—City, Mayor and Bd. of Aldermen, open bids Apr. 21 for rein. conc. paving San Antonio Ave.

MARYLAND—State Roads Comsn., L. H. Stuart, Sec., Baltimore, has low bids for 4 roads and bridge in following counties:

Allegany—steel girder bridge with road relocation at Barrelesville underpass, road from Corriganville to Mt. Savage, A-81-611, Cumberland Contracting Co., Cumberland, \$10,747;

Harford—3.89 mi. conc., Jarrettsville-Upper Cross Roads road, H-108-44, FAP 235-A, Harry T. Campbell Sons Co., Towson, \$72,942;

Prince George's—1.40 mi. conc., Suitland to Marlboro Pike, P165-34, FAP 234, Christhill & Ensey, 1625 Ridgely St., Baltimore, \$20,145;

Somerset—0.55 mi. conc., Maryland Ave. to McCready Hospital, S-50-14, Haniman Burroughs Co., Salisbury, \$12,591. 4-2

MARYLAND—State Roads Comsn., L. H. Stuart, Sec., Baltimore, opens bids April 21 for 4 roads in following counties:

Charles—0.94 ft. gravel, Gallant Green-Aquasco road, end of Ch-90 to Prince George's County line, Ch-101-84;

Harford—3.91 mi. macad., Baker's Corner-Walker's Corner road, end of H-93 to Walker's Corner, H-11344; 4.2 mi. macad., Calvary-Bush road, end of H-81 to Bush, H-110-42;

Washington—2.49 mi. macad. resurfacing, Downsville toward Williamsport, W-90-64.

Md., Baltimore—City, Nathan L. Smith, Highways Engr., has low bid from American Paving & Contracting Co., 2525 Montebello Ave., at \$34,409, for Sheet Asphalt Cont. 593, 8650 sq. yd. 4-2

Md., Baltimore—Army Headquarters, Third Corps Area, 311 St. Paul St., opens bids Apr. 24 for roads, repairs and improvements, Loudon Park; includes road work, conc. work and coping in connection with fencing. 2-19

MISSISSIPPI—State Highway Comsn., Tower Bldg., C. M. Williamson, Director, Jackson, opens bids Apr. 22 for 4 roads in following counties:

Copiah—2.67 mi. Crystal Springs-Hazlehurst road near Gallman, FAP 82-D, 28,513 cu. yd. excavation, 1470 cu. yd. borrow excavation, 12,913 lb. rein. steel, 6000 lb. rein. steel in bridges;

Washington—8.523 mi., Greenville-Leland road, FAP 211-A, 2349 cu. yd. excavation, 163,045 cu. yd. borrow excavation, 27,028 lb. rein. steel, 40,055 cu. yd. subgrade treatment, 91,330 rein. steel and 186,585 lb. struc. steel in bridges;

Pearl River—5.06 mi., Hattiesburg-New Orleans road near Poplarville, FAP 118 Reop., 78,999 cu. yd. excavation, 6954 cu. yd. borrow excavation, 39,340 lb. rein. steel, 50,167 ft. b. m., 1490 lin. ft. creosoted piling in bridges;

Madison—placing subgrade treatment material on Tougaloo-Canton road, FAP 79-B, 2666 cu. yd. subgrade treatment.

Mississippi—State Highway Comsn., C. M. Williamson, Director, opens bids Apr. 22 for subgrade treating Tougaloo-Canton road, Madison County, FAP 79-B, 2666 cu. yd.

MISSOURI—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, has low bids for 44 roads in following counties:

Andrew—0.322 mi. 30-ft. graded earth, 4-9, Henderson Construction Co., Richmond, Mo., \$1112;

DeKalb—3.558 mi. 30-ft. graded earth, 4-10, Henderson Construction Co., \$75,589;

Carroll—3.818 mi. chats, SD-1, Martin Wunderlich, St. Paul, Minn., \$12,638;

Dade—4.636 mi. crushed rock or gravel, SA-1, Alt. 1, R. H. Sharp, Reeds Springs, \$17,508; Alt. 2, same contractor, \$17,799;

Dent—3.327, 2.996 mi. gravel, SA-1, SA-2, C. E. Rich & Co., Troy, \$13,455, \$18,402;

Dunklin—2.969, 0.589 mi. gravel, SC-2, SC-3, D. B. Talbott, Murphysboro, Ill., \$23,180, \$2229;

Douglas—4.973, 4136 mi. gravel, 14-29, 14-30, Martin Wunderlich, \$37,421, \$29,277; 4.180, 4.167 mi. 24-ft. graded earth, SD-2, SD-3, same contractor, \$9242, \$8223;

Gasconade—4.964, 4.884 mi. gravel, 19AP-

96, 19AP-87, R. E. Martin, Cotton States Bldg., Nashville, Tenn., \$47,084, \$119,800;

Crawford—3.968, 3.399, 3.842 mi. gravel, 19AP-88, 19AP-89, 19AP-90, R. E. Martin, \$51,839, \$29,311, \$23,680;

Grundy—2.291 mi. crushed stone, SH-2, Martin Wunderlich, \$27,769;

Howard—4.010, 2.613 mi., 331A, 331B, B. F. Brooks, Alt. 1, \$18,244, Alt. 2, \$24,791, Alt. 1, \$9825, Alt. 2, \$14,093, respectively;

Harrison—4.962, 4.848, 2.750 mi. 10-ft. conc. 130A, 130B, 130D, Carlon Construction Co., Maplewood, \$34,598, \$34,201, \$17,954;

Lawrence—3.523 mi. 20-ft. conc., 60-17B, Koss Construction Co., Des Moines, Ia., \$68,055;

Madison—0.157 mi. gravel, Ref. 2-3 SN-3, E. W. Deering, St. Louis, \$23,152;

Monroe—3.177, 3.648, 5.204 mi. gravel, 26-3A, 26-4A, 26-5A, W. D. Knoll, Lowry City, \$4092, \$4621, \$5545;

Montgomery—3.845 mi. gravel, SD-2, E. K. Porter, Carrollton, \$14,426;

New Madrid—0.398 mi. gravel, SC-1, Cherus Construction Co., Minneapolis, Minn., \$15,006;

Osage—1.473, 2.677 mi. 20-ft. conc., 181, 325G, Davis Construction Co., Booneville, \$88,580; \$76,251; 2.896 mi. 30-ft. graded earth, 325H, McMahan-Waller Construction Co., Rich Hill, \$29,222;

Ralls—0.513 mi. 20-ft. conc., 66F, F. T. O'Dell, Hannibal, \$67,526;

Ripley—2.905 mi. gravel, SB-6, R. B. Potashnick, Cape Girardeau, \$22,360;

Shelby—1.352 mi. gravel, 15-20A, A. C. Longfield, LaPlata, \$34,223;

Texas—4.184, 3.458 mi. gravel, Glenn E. Stoner, Charleston, Mo., \$22,584, \$62,343;

Worth—3.655, 3.788, 4.738, 2.547, 4.242, 1.288 mi. gravel, 46-4A, 46-5A, 46-6A, 46-7A, 169-1A, 169-2A, Korbmaker Co., Excelsior Spring, \$2487, \$3806, \$2332, \$1919, \$2137, \$728, 3-26

Missouri—State Highway Comsn., E. E. Cramer, Sec., Jefferson City, reported, build over 3000 mi. roads in 1931, involving \$30,000,000.

Tenn., Chattanooga—National Park Service, Washington, appropriated \$237,230 for paving Crest road from north end of Missionary Ridge to Georgia state line.

Tenn., Nashville—Davidson County Highway Dept. submitted program to County Court for setting aside \$125,000 for pike maintenance, district road maintenance and for general road improvement during coming quarter.

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Sta. 773 plus 18, conc. from Sta. 265 plus 66.7 to 742 plus 00, grading, draining, conc. pavement and gravel surface course with combined curb and gutter, Sta. 742 plus 00 to Sta. 773 plus 18, FAP 591-C, \$250,000;

Limestone—13.134 mi. grading, draining, Highway 14, Kosse to Groesbeck; FAP 161 Reop.

Bowie—13.279 mi. single bitum. surface treatment on 8-in. gravel base course, Highway No. 11, 13 mi. south to De Kalb, SAP 922-F, \$80,000;

Cameron—5.139 mi. grading, draining, Bluetown, \$170,000;

Fort Bend—2.657 mi. grading, draining, conc., Highway 3, east line Road Dist. No. 8 to Brazos River, FAP 557, \$98,000;

Liberty—3.055 mi. rein. conc. pavement with shell shoulders, Highway 3, Trinity River bridge project to beginning of pavement at Dayton, FAP 352-Reop., \$105,000;

Navarro—10.311 mi. 18-ft. rein. conc., Highway 14, Ellis County line to north line of Consolidated Road Dist. 1, FAP 463-A, Unit 2, \$130,000;

Jim Wells—2.360 mi. grading, draining, Highway 14, Kleburg County line west to intersection with Highway 12, 1.5 mi. north of Los Machos, SAP 971-B, Unit;

San Augustine—6.7 mi. widening shoulders and ditches, graveling, Highway 8, Shelby County line to San Augustine, \$49,800;

Shelby—6.5 mi. widening shoulders and ditches, regrading and surfacing with bitum. treatment, Highway 36, Timpson to Nacogdoches County line, \$48,800;

Brewster—eliminating 62 dips and replacing with culverts, Highway 3, \$41,500;

Parker—2.7 mi. graveling, Highway 34, between Tarrant and Wise Counties, \$4500;

Wise—11.6 mi. widening and surfacing with bitum. surface treatment, Highway 39, end of asphalt pavement north of Bridgeport through Chico to Jack County line, \$29,500;

Tarrant—conc. retaining wall, Highway 34, 2 mi. northwest of Fort Worth, \$30,000;

Bastrop—3.5 mi. gravel base and bitum. surface treatment, Highway 71, Smithville to Fayette County line, \$16,000.

Texas—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, appropriated \$501,431 for maintenance improvement in 27 counties, including road and bridge projects.

Texas—State Highway Comsn., Gibb Gilchrist, Highway Engr., Austin, opens bids at 3-day session beginning Apr. 30 for paving Highway 5 east from Sherman to Fannin County line, and Highway 6 north from Denison to Red River.

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Monongalia-Wetzel—4.08 mi. conc. paving, Wadestown-Burton road, Ferguson Bros., Shinnston, \$86,700;

Wayne—1.3 mi. draining and part paving, Ceredo-Huntington road, Ashland Supply Co., Ashland, Ky., \$85,072;

McDowell—2 mi. conc. paving, Kimball-Bottom Creek road, Hatfield Construction Co., 722 14th St., Huntington, \$53,745; 45,000 ft. wire rope guardrail, between Welch and Maybeury, K. E. Reed & Co., Stop 8, South Charleston, \$13,005;

Putnam—4.7 mi. surface treatment, Hurricane-Mount Vernon road, Billups & Wellman, Huntington, \$16,144;

Ritchie—6 mi. grading, draining, Pike-Goose Creek road, C. H. Rice & Sons, Belmont, Ohio, \$165,971; 5.3 mi. grading, draining, Goose Creek-Nutter road, R. W. Fimple, Fairmont, \$126,453;

Roane-Gilmer-Calhoun—42,000 ft. wire rope guardrail between Spencer and Glenville, K. E. Reed & Co., 283 cents per foot.

Wyoming—1 mi. stone base and surface treatment, Herndon-Mercer County line road, A. Keathly, Professional Bldg., Charleston, \$84,300. 3-20

WEST VIRGINIA—State Road Comsn., Geo. E. White, Sec., Charleston, opens bids May 5 for 13 roads and bridge, involving approx. \$700,000, in following counties:

Barbour—8.51 mi. surface treatment, Route 56, between Grafton and Randolph County line;

Braxton—8.2 mi. conc., U. S. Highway 19, between Flatwoods and Bulltown;

Calhoun-Ritchie-Pleasants—123,000 lin. ft. wire rope guard rail, Route 16, between Millstone and St. Marys;

Fayette-Nicholas—10.48 mi. surface treatment, U. S. Highway 19, between Gauley bridge and Swiss;

Harrison—0.62 mi. surface treatment, U. S. 19, between Clarksburg and Weston;

Logan—14.8 mi. surface treatment, Route 2, between Clothier and Ethel;

Marion—2.18 mi. conc., U. S. 250, between Fairmont and Mannington; Conaway bridge No. 1236, U. S. 250, west of Fairmont, steel superstructure;

Mason-Putnam—82,000 ft. wire rope guard rail, Routes 5 and 17, between Cabell County line and Winfield;

Monongalia—6.62 mi. grading, draining, 2 box culverts, State Route 73, between Uffington and Smithtown;

Monroe—20.6 mi. surface treatment, State Route 24, between Salt Sulphur and Petersburg;

Morgan—6.19 mi. grading, draining, shale surfacing, State Route 38, between Berkeley Springs and Rock Gap;

Ritchie—4.56 mi. surface treatment, State Route 16, between Smithville and Calhoun county line;

Wayne—11.3 mi. surface treatment, State Route 8, between Marrowbone and Bull Creek.

Contracts Awarded

FLORIDA—State Road Dept., Robt. W. Bentley, Chmn., Tallahassee, let contracts for 2 roads in following counties:

Volusia—8.7 mi. grading, draining, Road 4, FAP 60-C, Rutherford Construction Co., Lake Wales, \$32,589;

Dade—4.3 mi. grading, draining, cement conc. paving, Road 4-A, Proj. 909-C, A. B. Curry Construction Co., Miami, \$114,631. 3-26

La., Bastrop—Morehouse Parish Police Jury, J. Lester White, Parish Engr., let contract to Alexandria Contracting Co., 907 Fourth St., Alexandria, at \$16,000 for Proj. No. 6, 2 mi.; Proj. 7, 3.5 mi., and Proj. 8, 1 mi.; to Crossett Gravel Co., Crossett, Ark., for gravel at \$3240. 3-5

Miss., Holly Springs—Marshall County 63 cents per yd. of 1.5 mi. graveling, Wall Supvrs. let contract to H. B. Gatewood, at Hill-Byhalia road; to E. E. Sanders, at \$1.35 per ft., for 150-ft. bridge over Tippah River, Dist. 5; to Thad Whaley, for 40-ft. bridge, 16 ft. wide, Tallaloosa road, Road Dist. 5.

OKLAHOMA—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, let contracts for 3 roads in following counties:

Muskogee—10 mi. grading, draining, Highway 62, Moran & Buckner, Muskogee, \$51,458;

Woods—8.5 mi. grading, draining, Highway 45, Lee Schultz, Alva, \$21,581; 4.5 mi. grading, draining, Highway 64, Rock Construction Co., Durant, subject to Federal approval.

Oklahoma—State Highway Comsn., Sam R. Hawks, Chmn., Oklahoma City, let contract to T. C. Ottinger, Hinton, at \$16,978, for 5.038 mi. grading, draining, west of Synder Kiowa County, FAP 216-A.

Tex., Beaumont—City let contract to S. Shambaugh, 1401 Dowling St., Houston, at \$81,766, for natural rock asphalt on conc. paving, Center, Corley, Ector, First and Pine Sts., \$81,766.

Va., Norfolk—City, Joseph F. Weaver, City Engr., let contracts for street work: E. P. Lindsay, 1331 High St., Portsmouth, at \$2790 for 1050 sq. yd. vit. brick paving; F. J. McKuire, 39th St., Norfolk, at \$11,000, for 650 cu. yd. conc., 100 tons asphalt binder, 75 tons sheet asphalt mixture and 400 tons bitulithic mixture.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Birmingham—Fromhold Construction Co., 1798 Tuscaloosa Ave., reported, has contract for sewers under Village Creek, at Sixteenth St. N.

La., Shreveport—Constr. Q. M. Barksdale Field receives bids May 12 for construction of sanitary sewer system and c. i. force main; information on application.

Md., Jessups—Maryland House of Reformation has plans in progress for water supply and sewerage, cost \$50,000; engineering department State Bd. of Health, 2411 N. Charles St., Baltimore, Md., Engrs.

Md., Baltimore—John Matricciani, 220 S. Exeter St., has contract at \$33,898 for sewers, Sanitary Contr. 264. 4-0

Md., Baltimore—Marocco Constr. Co., 231 S. Exeter St., has contract at \$23,897 for sewers, Sanitary Contr. 279. 4-2

Md., Sabillasville—State of Maryland, Sabillasville Sanitarium, soon take bids on material bids for sewage treatment plant, supplementing and reconstructing; engineering department, State Bd. of Health, 2411 N. Charles St., Baltimore, Engrs.

Md., Sykesville—Springfield State Hospital, Dr. Edwin P. Bledsoe, Supt., soon take bids on materials for water supply and sewers; engineering department State Bd. of Health, 2411 N. Charles St., Baltimore, Md., Engrs.

Okla., Wewoka—City, R. Grace, Engr., votes May 5 on \$45,000 sewer bonds.

Tenn., Chattanooga—City, W. H. Wilson, City Engr., may vote on \$350,000 bonds for completion of Brainerd sewer system in annexed territory.

Tex., Austin—City, Adam R. Johnson, Mgr., opens bids April 23 for sanitary sewers in various districts in vicinity of Chicom St. between Twelfth and Nineteenth Sts., Red River St., between Twentieth and Twenty-second Sts., etc.

Tenn., Memphis—City, W. B. Fowler, City Engr., will have plans ready for bids April 28 for new sewer system; about 90 miles of 8-10- and 12-in. pipe, 992 standard manholes. 3-26

Tex., Dallas—City, John M. Young, City Engr., has plans complete for \$1,500,000 storm sewers in Dallas Br. Dist. 6, Pacific Ave., Dist. B. Mill Cr. Dist. 12-C and Peaks Br. Dist. 28B; date of opening bids not set. 3-26

Tex., Liberty—Dalton Engineering Co., Wilson Bldg., Dallas, reported, has contract for \$60,000 sewer system.

Va., Fort Monroe—Office of Constructing Q. M., receives bids May 7 for construction of 12-in. sewer. See Want Section—Bids Asked.

Va., Roanoke—C. L. Tinsley, 513 13th St., S. W., Roanoke, reported, low bidder on 5 sewer projects, including Proj. No. 1, No. 1-A, No. 2, No. 3 and No. 4; Campbell and Peters, Roanoke, low bidder for Project No. 2-A and No. 5; J. A. Ford Co., Inc., for Proj. No. ; total cost \$143,515. 3-19

Telephone Systems

Alabama—Alabama Public Utilities Co., 742 Bankers Bldg., Chicago, Ill., and Haleyville, Ala., will have hearing May 15 before Alabama Public Service Comsn., Montgomery, on application to purchase telephone properties of South-States Utilities Co., Inc., in following towns: Phil Campbell, Haleyville; Ash Ridge; Double Springs; Hackleburg; Hamilton; Gunt; Winfield; Bear Creek; Fayette; Sulligent; Vernon; Aliceville; Carrollton; Gordo; Reform, and Dime.

Ky., Frankfort—American Telephone & Telegraph Co., New York, reported, acquired option on site Second and Shelby Sts., for 3 story, brick booster and equalizer station.

Tenn., Butler—Inter-Mountain Telephone Co., Wm. N. McAnge, Jr., Pres., Bristol, acquired Butler telephone exchange; plans improvements.

Texas—Southwestern Associated Telephone Co. (formerly State Telephone Co. of Texas), Lubbock, controlled through ownership of entire common stock by Associated Telephone Utilities Co., offering \$3,250,000 first mortgage gold bonds, Series A, through Bonbright & Co., Inc., New York; company is acquiring other operating companies of the system in the states of Texas, Oklahoma and Louisiana and also substantial majority interest in common stock of another operating company of the system in Texas.

Tex., San Benito—Valley Telephone Co., plans erecting new building.

Va., Lynchburg—Lynchburg Flying Service, Inc., City Farm, applied to Federal Radio Comsn., Washington, for new construction permit.

Textile Mills

Ala., Birmingham—J. F. Ames, of Ames Bag Machine Co., 1991 E. 66th St., Cleveland, O., reported, acquired cotton mill of Strowd-Holcombe Cotton Mill, Inc., on Vanderbilt Rd.; will operate probably under name of Selma Mfg. Co.; H. H. Holcombe, Mgr. in charge.

Ga., Marietta—Champion Knitting Mills, Chattanooga, Tenn., and Marietta Knitting Mills, Marietta, reported, merged as Champion Knitting Mills of Marietta; will produce Champion hosiery in Marietta mill.

N. C., Asheville—Asheville Weavers, Inc., leased portion of Wilson Bldg. in Kenilworth; installing 10 looms for weaving woollens; Fred L. Seely, will supervise local plant. 3-8

N. C., Hemp—Pinehurst Silk Mills, reported, plans constructing addition to mill.

N. C., Valdese—Waldensian Weavers, Inc., reported, let contract for erection 3 story addition to mill; 55x55 ft.

S. C., Anderson—Townsend Lumber Co., N. Towers St., Anderson, has entire contract for improvements to Appleton Mills. 4-9

Tenn., Chattanooga—Wilson Bros., South Bend, Ind., reported, acquired interest in underwear mill at Chattanooga for production of cotton union suits.

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that classification.

Ky., Frankfort—Associated Gas & Electric Co., 120 Wall St., New York, holding company for Kentucky-Tennessee Light & Power Co., reported, acquired capital stock of Frankfort Water Co.

Ky., Paris—City, Goone Baldwin, City Mgr., reported, acquired and will operate Paris Water Works Co.; expend about \$150,000 for improvements, including filtration plant, pumping equipment, installing meters, rebuild Spears Mill dam for impounding in emergency.

Md., Baltimore—Legislature passed bill authorizing City, A. Walter Kraus, City Solicitor, to issue \$7,500,000 water improvement bonds and \$5,000,000 sewer bonds. 3-26

Md., Baltimore—Badger Meter Mfg. Co., Milwaukee, Wis., has contract at \$23,005 for 3275 water meters. 326

Md., Baltimore—Baltimore Tube Co., 1301 Wicomico St., low bidder at \$13,938 for copper pipe for Bureau of Water Supply.

Md., Baltimore—Lock Joint Pipe Co., Ampere, N. J., has contract for 84-in. concrete pipe in connection with water conduit Druid Hill Lake to Montebello; excavating and conc. work by Whiting-Turner Construction Co., Stewart Bldg., Gen. Contrs.; contract for cement not let; have purchased air compressor from Ingersoll-Rand Co., 11 Broadway, New York, N. Y.; cages from Connellsville Mine Co., Connellsville, Pa.; mine cars from Irwin Co., Irwin, Pa.; drills from Denver Rock Drill Mfg. Co., 147 Varick St., New York. 2-26

Md., Curtis Bay, Baltimore—Following contractors estimating on masonry wall, tank enclosure at Curtis Bay: Thomas Mullan, 3945 Greenmount Ave.; Charles L. Stockhausen Co., Inc., Gay and Water Sts.; James Veseley, 742 N. Kenwood Ave., and C. W. Schmidt, Hearst Tower Bldg., all Baltimore. 4-9

Miss., Raymond—City, reported, plans voting on bonds for water well; Layne Central Co., Memphis, Tenn., low bidder.

Mo., Cape Girardeau—Missouri Utilities Co., reported, plans \$250,000 improvements to water plant at Cape Rock and rebuilding street lighting system.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Va., Roanoke—Roanoke Lodge No. 197, P. O. Elks, approved erection of 6-story clubhouse; Louis Philippe Smithy, Archt., 112 Kirk Ave., W.; name and address of architect recently incorrectly noted. 4-2

Bank and Office

D. C., Washington—Riggs National Bank remodel bldg., 1503 Pennsylvania Ave.; 2 galleries, elevator shaft, brick, conc., hollow tile, stone trim, iron and bronze work, struct. steel, comp. floors, copper; Appleton P. Clark, Jr., Archt., 816 14th St.; bids in.

D. C., Washington—Standard Oil Company of New Jersey, 241 Pennsylvania Ave., N. W., receives revised bids April 20 for office and garage bldg.; \$1,000,000, steel frame, conc. floors, stone, 6 stories and basement, 71x335 ft., with 200x20-ft. court in rear above second floor; Clyde N. & Nelson Friz, Archts., Lexington Bldg., Baltimore, Md.; Lynn Rosebrook, comp. archt., 26 Broadway, New York; Herman P. Doeelman, Struct. Engr., Balto, Trust Bldg.; Reeder, Eizer & Akers, Mech. Engrs., 916 N. Charles St., both Baltimore; following contractors estimating: J. Henry Miller, 405 W. Franklin St.; M. A. Long Co., 10 W. Chase St., both Baltimore; Loudoun Rust Co., Dist. Natl. Bk. Bldg.; Charles H. Tompkins Co., 1608 K St., N. W.; James Baird Co., Inc., 1800 E St., N. W.; Skinner & Garrett, 1419 I St., N. W., all Washington; Irwin & Leighton, 1505 Race St.; Wark Co., 1608 Walnut St., both Philadelphia, Pa.; Karno Smith Co., Trenton, N. J.; James Stewart & Co., Inc., 230 Park Ave.; George A. Fuller Co., Fuller Bldg., both New York; Hunkin-Conkey Construction Co., Hunkin-Conkey Bldg., Cleveland, O. 1-29

Churches

Fla., Pensacola—Temple Beth-El, M. L. Bear, Chmn., Bldg. Comm., 126 S. Palafox St., Pensacola, receives bids until April 21 for \$40,000 to \$50,000 synagogue to replace burned structure; brick, conc. and frame, 2 stories, 63x90 ft., cement and wood floors, comp. roof, warm air heat, iron, plaster, pressed brick, art glass; auditorium and balcony seat 400, assembly room seat 300, 8 classrooms, stage, gymnasium; Emile Well, Inc., Archt., Whitney Bk. Bldg., New Orleans, La.; following prospective estimators: J. W. Eley, 922 E. Gregory St.; John Q. Owens, 124 E. Intendencia St.; J. J. Patton & Son, N. Baylan St.; C. H. Turner Co., Lobby Brent Bldg.; C. A. Fulghum, 116 W. Gouzalet St.; S. L. Fulghum, 1306 E. Mallory St., all Pensacola; G. F. Favrot, Balter Bldg.; L. F. Favret, Louisiana Bldg., both New Orleans, La.; Wessell Construction Co., 388 N. Front St., Memphis, Tenn.; L. A. Gily, N. Fifth Ave., Laurel, Miss.; McArthur & McLeMore, 611 22nd Ave., Meridian, Miss. 1-8

Md., Baltimore—West Baltimore M. P. Church, H. B. Freeman, Chmn., Bldg. Comm., 1627 E. Lanvale St., has low bid from B. H. B. Ennis, 1933 E. 31st St., to raze present structure and re-erect at Greenwich and Charing Cross Rds., Ten Hills; Chas. T. McClure, Archt., 2315 Shelbourne Rd. 2-19

Md., Baltimore—St. Francis Xavier R. C. Church, Caroline and Eager Sts., Rev. L. B. Pastorelli, Pastor, 1130 N. Calvert St., probably soon call for bids to alter bldg.; L. E. D. Gaudreau, Archt., 3458 Park Heights Ave.

Md., Overlea—Baptist Church, Rev. H. G. Cariburg, Pastor, 4104 Overlea Ave., plans 2-story stone church and Sunday school; architect not selected.

Mo., Bowling Green—First Presbyterian Church, Rev. W. G. Mitchell, Pastor, repair interior damaged by fire at \$15,000, including loss of \$2000 pipe organ.

Tex., Houston—First Unitarian Church, Dr. Thos. H. Saunders, purchased site, Fannin and Southmore Sts., for church.

City and County

Ala., Birmingham—Jefferson County Bd. of Comms. receives bids April 23 for court house equipment; wood and metal furniture, metal equipment, drapery, rugs, kitchen equipment, metal lamps, dormitory bunks, infirmary beds; Holabird & Root, Archts., 333 N. Michigan Ave., Chicago, Ill., and

Comer Bldg., Birmingham; Harry D. Wheelock, Asso. Archt., Steiner Bldg., Birmingham; Southern Ferro Concrete Co., Contr., Atlanta Trust Bldg., Atlanta, Ga. 3-19

Ala., Wetumpka—Following contractors estimating on \$250,000 Elmore County court house, bids April 30: W. L. Coston, Box 338, Bessemer, Ala.; D. T. Underwood, Pioneer Bldg.; E. C. Coston, 3019 Avenue F; Foster-Creighton Co., Protective Life Bldg.; Smallman-McQueen Construction Co.; C. G. Kershaw Contracting Co., 513 Martin Bldg.; A. J. Honeycutt Co., 2512 Eighth Court North, all Birmingham; Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala.; Murphey Pound, Hill Bldg., Columbus, Ga.; G. A. Hanson Co., Box 2575, Tampa, Fla.; Southern Ferro-Concrete Co., Atlanta Trust Bldg., Atlanta, Ga.; Warren, Knight & Davis, Archts., Protective Life Bldg., Birmingham. 4-9

Ark., Fort Smith—City voted \$25,000 bonds to erect new fire stations and repair present ones.

Fla., Miami Beach—City, Ed R. Neff, City Engr., receives bids April 22 for locker room and comfort station bldg., Flamingo Park; Russell T. Pancoast, Archt., Lincoln Rd.

Ga., Athens—City, Long G. Dudley, Moyer, considers erecting fire station.

Ky., Greensburg—Green County Building Corp. let contract at \$27,441 to J. Hugh Schickli & Bro., 1300 W. Oak St., Louisville, for red brick court house and jail to replace burned structure; Edgar W. Archer, Archt., Coleman Bldg., Louisville. 1-15

La., Crowley—Following contractors estimating on \$60,000 city hall and auditorium, bids April 23 by City Council: General—J. M. DeFraitres, Inc., 612 State St.; N. Pratt Farnsworth, Canal Bank Bldg.; J. A. Petty & Sons, Inc., Audubon Bldg., all New Orleans, La.; E. E. Rabalais & Son, Bunkie, La.; W. J. Quick, 424 Bilbo St.; P. Olivier & Son, 114 Bilbo St., both Lake Charles, La.; Clifford H. King, Prescott Lane; A. C. Stewart, 810 E. Boulevard; L. W. Eaton, 1601 N. Boulevard, all Baton Rouge, La.; Tudor & Ratcliff, Commercial Bank Bldg., Alexandria, La.; C. J. Montgomery, Kaplan, Ala.; J. B. Mouton, Lafayette, La.; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 4-9

La., Lake Charles—Calcasieu Parish Police Jury rejected bids for court house and jail repair; receives new bid May 12; \$12,000; plumbing, etc.; R. S. McCook, Archt., First Natl. Bank Bldg. 3-26

Okla., Tulsa—Tulsa Public Library Bd. of Directors about ready for bids for 3 branch libraries; brick and frame, 1 story, hardwood, linoleum, cement and comp. floors, conc. foundations, slate or asbestos shingle roofs, tile roofing, hollow tile; Donald McCormick, Archt., 526 Exchange Place. 2-26

Tenn., Knoxville—City erect \$25,000 baseball grandstand, Caswell Park; steel and wood, flat built-up roof; Manley & Young, Archts., Medical Arts Bldg. 4-2

Tex., Galveston—City Bd. of Comms. Jacob Singer, Commr. of Finance and Revenue, ready for bids for erection of fire stations; \$30,000 available.

Dwellings

D. C., Washington—W. L. Moore, 1024 Vermont Ave., has permit for erecting brick dwelling, 5452 Nebraska Ave., N. W.; 2 stories, \$10,000; Geo. T. Santmyers, Archt., 1416 I St., N. W.

D. C., Washington—Alfred H. Bellman has permit for 3 frame dwellings, 3517-25 26th St., N. E.; 2 stories; total \$12,000.

Ala., Birmingham—T. Hanson, 5906 First Avenue, N., erect stone veneer residence, Killough Springs; 1 story, 41x53 ft., conc. roof, steam heat; Jacob E. Salle, Archt., 508 Robertson Rd.; bids in.

D. C., Washington—John M. King, 1008 11th St., N. W., erect 2 frame dwellings, 3608-10 26th St., N. E.; 2 stories; total \$10,000.

D. C., Washington—Annie McClelland has permit for \$10,000 residence, 5423 33rd St., N. W.; brick, 2 stories.

D. C., Washington—Edson W. Briggs Co., 1001 15th St., N. W., has permit for \$21,000 frame dwelling, 7926 W. Beach Drive; 2 stories.

Tex., Amarillo—D. L. McDonald, 732 Amarillo Bldg., has contract at \$125,000 for extension of water system; will install 5 deep well turbines and 5 vertical shaft motors. See Want Section—Machinery and Supplies. 4-9

Tex., Beaumont—City, Paul H. Millard, City Mgr., reported, plans voting on \$250,000 bonds for improvement at city plant and emergency intake at Wiess Bluff; install Diesel engine; S. W. Freese, Capps Bldg., Fort Worth, Constt. Engr. 3-26

Tex., Beaumont—Morey & Morey, Praetorian Bldg., Dallas, reported, has contract for filter plant for Magnolia Pool.

Tex., Corpus Christi—City, P. G. Lovenskiold, Mayor, will have plans ready for bids about May 1 for repairs to LaFruita Dam; Robt. J. Cummins, Bankers Mortgage Bldg., and Henry E. Elrod, 1925 Wentworth St., Houston, Engrs. 4-2

Tex., Henderson—Chicago Bridge & Iron Works, Chicago, Ill., reported, has contract for steel storage tank, capacity 250,000 gal. 4-9

Woodworking Plants

Ark., Little Rock—J. J. Broens & Sons Co., 345 Jefferson St., Memphis, Tenn., reported, remodeling building 417 W. Seventh St. for automobile and truck body plant.

North Carolina—Williams-Norris Co., Teel Williams, Grand Rapids, Mich., Pres., reported, organized to acquire and operate old Knox Furniture Mfg. Co.'s plants at High Point and Thomasville.

N. C., High Point—Period Furniture Co., lately noted incorporated, establishing plant on English St. for manufacture upholstered furniture. 3-5

FIRE DAMAGE

Ala., Birmingham—Clark & Jones Piano Co.'s building, 1913 Third Ave., N.; New William's Store, Joe Goldstein, Mgr., 1915 Third Ave., N.

Ark., Lake Village—Queen Theater owned by Sam Epstein; loss \$10,000.

D. C., Washington—Cabin John Bridge Hotel owned by Mrs. W. H. Bobinger.

Ga., Atlanta—Kappa Sigma Fraternity on Clifton Road; loss \$15,000.

Ga., Macon—Residence, store and filling station of J. W. Kitchens, 1190 Milledgeville Road.

Ga., Thomasville—Oil mill and cotton ginning plant owned by H. M. Groover.

Ky., Lexington—Barn on John L. Dodge's Hollyrood farm, three miles from Lexington on Harrodsburg pike.

Md., Hyattstown—Burdette Inn owned by Newman Dutrow; loss \$20,000.

Miss., Biloxi—Wm. Jackson's residence, W. Beach Blvd.; loss \$10,000.

Miss., Canton—City Light and Water Plant; loss \$50,000.

Miss., Laurel—Foster-McLaurin Furniture Store, Oak St., damaged; C. G. Foster, Mgr.

Miss., Magee—Magee High School; loss \$45,000; Paul Arrington, Supt. of Schools.

Mo., Kansas City—Plant of Southland Cottonseed Products Co., 16th and Iron Sts.; loss \$50,000.

Mo., Maysville—Elementary High School; loss \$75,000; H. C. Thomas, DeKalb County Supt. of Schools.

Okla., Oklahoma City—Baker Wholesale Furniture Co.'s building, owned by K. C. Baker, 1228 W. 45th St.; loss \$30,000; Atlas Sash and Door Co.'s building, owned by L. C. Morgan; loss \$25,000.

Tenn., Middleton—Baptist Church.

Tex., Denton—Godwin Hotel, owned by Arthur Newton and J. Fred Rayzor, damaged; loss \$10,000.

Tex., Nat. (P. O. Trawick)—School building; loss \$10,000; address Nacogdoches County School Bd., Nacogdoches.

Tex., Sherman—Schmitzer Tailor Shop and Wear's Studio, 200 block N. Travis St., in building owned by Mrs. Silas Hare; loss \$25,000.

Tex., Weimar—Frank Kuchar's farm residence near Weimar.

Va., Lexington—Sigma Chi Fraternity house at Washington and Lee University.

W. Va., Beckley—Building occupied by Raleigh Hardware Co., George Moss, Gen. Mgr., and Great Atlantic and Pacific Tea Co., M. A. Lewis, Mgr.; Ross Funeral Home adjoining; loss \$100,000.

D. C., Washington—North Washington Realty Co., Silver Spring, Md., erect brick and cinder block residence, Locust Rd., N. W., near 15th St.; 2½ stories, 28x28 ft., slate roof, tile baths, hot water heat; Volney O. Chase, Archt., 923 Fifteenth St., Washington.

Fla., Bradenton—Robt. R. Green, Boston, Mass., erect residence, Riverside Drive.

Md., Bay Ridge, Annapolis—Harry F. Bleber, 1734 K St., N. W., Washington, D. C., plans residence, Bay Ridge.

Md., Baltimore—George P. Mueller & Son, 820 S. Conkling St., erect 13 brick dwellings, 4200-24 Evans Chapel Rd.; 2 stories, 14x41 ft.

Md., Baltimore—J. P. Dunn, 853 N. Howard St., soon ready for bids for residence, Homeland; Palmer & Lambdin, Archts., 513 N. Charles St.

Md., Towson, Baltimore—Stanley G. Loiseaux, care Davison Chemical Co., Curtis Bay, has low bid from E. A. Collings, 692 Gladstone Ave., for \$25,000 residence, Burnbrae; W. H. Emory, Jr., Archt., Balto. Trust Bldg.

N. C., Canton—J. L. Jones erect brick veneer residence; 1 story, 6 rooms, shingle roof, pine, tile and oak floors; Ye Planry, Inc., Archt., 1713½ Live Oak St., Dallas, Tex.; plans complete.

N. C., High Point—M. D. Matthews erect brick veneer residence; 1 story, 6 rooms, shingle roof, pine, tile and oak floors; Ye Planry, Inc., Archt., 1713½ Live Oak St., Dallas, Tex.; plans complete.

Okla., Tulsa—R. Otis McClintock, Pres., First Natl. Bk. & Trust Co., soon start work on French Provincial type residence, 41st St. and Lewis Ave.; 2½ stories and basement, brick, stone and rein. conc.; J. D. Forsythe, Archt., Exch. Bk. Bldg.

South Carolina—A. H. Caspary, 60 Broadway, New York, purchased 2 plantations in Colleton County; erect winter residence.

S. C., Charleston—E. C. Morrison, 21 George St., erect brick veneer residence; 1 story, 6 rooms, oak, tile and pine floors, shingle roof; Ye Planry, Inc., Archt., 1713½ Live Oak St., Dallas, Tex.

S. C., Greenville—C. Grantville Wyche, Dean Bldg., receives bids April 21 for Colonial residence, Augusta Rd.; brick, limestone trim, 2 stories and basement, 10 rooms, 5 tile baths, tile roof, hardwood floors, ornate iron, steam heat; Silas D. Trowbridge, Archt., 807 Forsyth Bldg., Atlanta, Ga.; estimators noted.

S. C., Florence—F. M. Elmore erect brick veneer residence; 1 story, 5 rooms, shingle roof, pine, tile and oak floors; Ye Planry, Inc., Archt., 1713½ Live Oak St., Dallas, Tex.

Tex., Houston—Geo. A. Hill, Jr., Petroleum Bldg., has permit for \$15,000 residence, 1604 Kirby Drive; brick veneer, 11 rooms.

Tex., Longview—Harry S. Turner has permit for \$11,000 brick veneer residence.

Va., Hume—Wm. E. Doeller, 1622 N. St., N. W., erect \$50,000 addition to residence; J. H. DeSibour, Archt., 1200 Fifteenth St., Washington, D. C.

Va., Staunton—Mrs. Julius Witz erect brick addition to residence; slate roof; Porter & Lockie, Archts., 1800 E St., Washington, D. C.

Government and State

Ala., Decatur—Prospective estimators on post office remodeling and enlarging, bids April 23 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C.; Williams Construction Co., Red Rock Bldg.; Norwood-Griffin Co., Bona Allen Bldg., both Atlanta, Ga.; Kellogg & Anderson, Sedalia, Mo.; Noyes, Roach & Co., 611 Morris Bldg., Joliet, Ill.; Murphy Pound, Hill Bldg., Columbus, Ga.; Samford Bros., Inc., 301 Washington Ave.; Algernon Blair, First Natl. Bk. Bldg.; Upchurch Construction Co., all Montgomery, Ala.; J. W. Chambers Lumber Co., Athens, Ala.; Earl E. Garber & Co., 203 W. Fourth St., Bethlehem, Pa.; W. S. Reeves & Son, Grant St. and 12th Ave.; J. B. McBride, both Decatur, Ala.; D. F. Brandon, 201 Chestnut St., Chattanooga, Tenn.; Keenan & Graves, 118 Preston Ave.; H. H. King, 701 West St., both Charlottesville, Va.; Adamson, Boylston & White, 1106 First Ave.; D. T. Underwood, Pioneer Bldg.; E. C. Coston Construction Co., 3019 Avenue F; Johnson Construction Co., 512 N. Sixth St., all Birmingham, Ala.

Ala., Maxwell Field, Montgomery—Following have plans for 3 double sets non-commissioned officers' quarters, bids May 1 by Constructing Quartermaster: Hodgson-Jones Construction Co., Inc., N. Perry St.; Perry & McDonald, 317 Dexter Ave.; T. M. Gorrie, 600 Pineleaf St.; Samford Bros., Inc., 301

Washington Ave.; Algernon Blair, First Natl. Bk. Bldg., all Montgomery; Batson-Cook Co., Inc., West Point, Ga.; H. H. Brown, Dothan, Ala.; G. A. Hanson Co., First Natl. Bk. Bldg., Tampa, Fla.; Norwood Griffin Co., Bona Allen Bldg., Atlanta, Ga.; Cut Stone Association of Indiana, Bloomington, Ind.; A. S. Bacon & Sons, Inc., Schwarz Ave., Savannah, Ga.; Walter M. Vernon, Fort Smith, Ark.

D. C., Washington—Architect of the Capitol, David Lynn, call for bids about July 15 for First St. wing, architectural treatment of C St. side, including marble colonnade, and landscaping court for Senate Bldg.; \$3,079,350 available; Wyeth & Sullivan, Archts., 16 Jackson Place.

D. C., Washington—Architect of the Capitol, David Lynn, opens bids May 21 for conservatory bldg. for U. S. Botanic Garden; \$800,000, about 183x284 ft., 1 story, stone, conc., steel, aluminum and glass constr.; rein. conc. pile foundation; plans available after April 13 from office Mr. Lynn; Bennett, Parsons & Frost, Const. Archts., 80 E. Jackson Blvd., Chicago, Ill.

D. C., Washington—District Commrs., Dist. Bldg., receive bids until April 29 for Northeast Branch Library bldg., Seventh St. and Maryland Ave., N. E.; 290,000 cu. ft.; \$150,000; A. L. Harris, Municipal Archt.; drawings from Room 427, Dist. Bldg.

Fla., Miami—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., call for foundation bids within few days for \$1,641,000 post office and custom house, structure to be faced with Quarry Key stone, hollow tile back, Italian Renaissance type, tile roof, 3 stories and basement, 254x215 ft., 44x70-ft. Federal court room with acoustical stone above wainscot, marble floor and 15-to 18-ft. marble wainscot in lobby, interlocking wood block, tile and terrazzo floors, forced ventilation system, air purification system; Phineas Paist & Harold D. Stewart, Archts., L. Murry Dixon, Asso. Archt., all Ingraham Bldg., Miami, and Ponce de Leon Entrance Bldg., Coral Gables, Fla.; Maurice H. Connell, Mech. Engr., McAllister Hotel Bldg., Miami; Harvey Baxter, Struct. Engr., 518 Harding St., P. O. Box 65, Coconut Grove, Miami.

Fla., West Palm Beach—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected site, Flagler Drive near Third St. for Federal building.

Ky., Louisville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., reported, receives bids from May 1 to May 30 for superstructure of \$2,000,000 post office, custom house and court house.

La., Baton Rouge—Quartermaster, Fourth Corps Area, Fort McPherson, Atlanta, Ga., receives bids until May 8 for lodge, U. S. National Cemetery; plans from office Quartermaster.

La., Barksdale Field, Shreveport—Constructing Quartermaster, Barksdale Field, has low bid at \$406,350 from Ashton Glassell, Inc., 260 Cadillac St., Shreveport, for 1 barrack for 330 men, 1 for 200 men and 1 for 163 men; also low bid from same firm at \$429,842 for 40 company officers' quarters.

Md., Baltimore—Commanding General, Maryland National Guard, Armory Place and N. Howard St., receives bids May 1 for repairs and improvements to 5th Regiment Armory, W. Hoffman St.; \$30,000; plans from 5th Reg. Headquarters, W. Hoffman St.

Miss., Biloxi—United States Veterans Bureau, Arlington Bldg., Washington, D. C., will locate \$1,000,000 Home for Disabled Volunteer Soldiers near Biloxi.

Mo., Kansas City—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids May 15 for constr. (except elevators, dumbwaiters and mail handling equipment) for post office; \$4,500,000; drawings from office Supvg. Archt.

Tenn., Chattanooga—Constructing Quartermaster, 1225 James Bldg., has low bid (recommended for contract) at \$9259 from E. G. Maxwell, Peach Blossom Road, for lodge, U. S. National Cemetery; hollow tile and stucco, 1½ stories, 34x34.6 ft., rein. conc. foundation, asbestos shingle roof, hardwood and tile floors.

Tex., Coleman—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids May 12 for \$100,000 post office; drawings from office Supvg. Archt.

Tex., Fort Sam Houston, San Antonio—Constructing Quartermaster, Fort Sam Houston, has low bid at \$91,680 for 1 story, \$81,540 for 2 stories without basement, and at \$86,640 for 2 stories and basement, from A. J. Rife Construction Co., 1913 N. Harwood St., Dallas, Tex., for 12 sets non-commissioned officers' quarters.

Tex., Houston—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., will advertise for bids May 15 for \$615,000 remodeling and addition to Federal building.

Tex., Randolph Field—Constructing Quartermaster has low bid at \$41,863 from S. & W. Construction Co., Randolph Field, for School of Aviation Medicine.

Tex., Randolph Field—Constructing Quartermaster, Capt. A. W. Parker, opens bids May 1 on struct. clay tile, stone, steel and brick Air Corps engineering shops central heating system; 1 and 2 stories.

Tex., Sweetwater—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids May 12 for \$130,000 post office; drawings from office Supvg. Archt.

Tex., Sweetwater—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., probably call for bids about May 1 for \$300,000 post office.

Va., Arlington National Cemetery—Constructing Quartermaster, 2335 Munitions Bldg., Washington, D. C., opens bids April 22 for warehouse and garage.

Va., Cape Charles—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids April 23 for site for Federal building.

Va., Culpeper—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., opens bids April 23 for site for Federal bldg.

Va., Danville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., opens bids April 23 for site for post office.

Va., Langley Field, Hampton—Prospective estimators on 2 Air Corps warehouses, Langley Field, bids April 30 by Constructing Quartermaster, Fort Monroe, Va.; Newport Contracting & Engineering Co., Lee Hall, Va.; Jewell-Riddle Co., Inc., Sanford, N. C.; Virginia Bridge & Iron Co., Roanoke, Va.; Davis Bros., 1716 Summit Ave.; J. A. Jones Construction Co., Box 131; Miller Manufacturing Co., Inc., Stockton and Sixth Sts.; Doyle & Russell, Central Natl. Bk. Bldg.; W. F. Jackson Co., 207 Bldrs. Exch. Bldg., all Richmond, Va.; R. R. Richardson & Co., Inc., Bk. of Commerce Bldg.; L. McCloud, 357 Arcade Bldg.; W. T. Gregory, Law Bldg. Hall Hodges Co., Inc., 806 Citizens Bk. Bldg.; Nichols & Lindeman, Inc., Seaboard Bk. Bldg.; A. G. Pinkston, P. O. Box 93; Building Supplies Corp., 1900 Monticello Ave., all Norfolk, Va.; Fanning & Sweeney, Inc., Jefferson Bldg., Greensboro, N. C.; U. A. Underwood Co., N. C. Bk. Bldg., Wilmington, N. C.; Townsend Lumber Co., N. Towers St., Anderson, S. C.; Joe B. Martin, 211 Kinney Bldg.; Southeastern Construction Co., 210 W. Second St.; Goode Construction Co., 11 E. Fifth St.; J. A. Jones Construction Co., 411 Commercial Bk. Bldg., all Charlotte, N. C.; A. S. Bacon & Sons, Schwarz Ave., Savannah, Ga.; Worsham Bros., Empire Bldg., Knoxville, Tenn.; Harwood Construction Co., Law Bldg.; H. & L. Electric Co., 4415 Huntington Ave., both Newport News, Va.; W. P. Rose Co., Wayne Natl. Bk. Bldg., Goldsboro, N. C.; Smallman-MacQueen Construction Co., Inc., P. O. Box 1391, Birmingham, Ala.; C. M. Buchanan & Co., Inc., Clarksville, Va.; Geo. H. Evans, Inc., 1416 Vine St., Philadelphia, Pa.; Taylor Manufacturing Co., Inc., Fredericksburg, Va.; J. T. Wornum, Phoebus, Va.; Crane Co., 1225 I St., N. W., Washington, D. C.; M. H. Sobel Co., First Natl. Bk. Bldg., Detroit, Mich.; Smith-Pew Construction Co., Inc., 435 Irwin St., N. E., Atlanta, Ga.; Theobald-Jansen Electric Co., 613 W. Main St., Louisville, Ky.; Wilson Co., Charlottesville, Va.; Hartenstein-Zane Co., Inc., 225 Broadway; Anchor Corrugating Construction Co., 130 W. 42nd St., both New York; Dietrich Bros., Pleasant and Davis Sts., Baltimore, Md.

Va., Langley Field, Hampton—Prospective estimators on hospital, Langley Field, bids May 5 by Constructing Quartermaster, Fort Monroe, Va.; Davis Bros., 1716 Summit Ave.; J. A. Jones Construction Co., P. O. Box 131, Richmond, Va., and 411 Commercial Bk. Bldg., Charlotte, N. C.; Davis Bros., 1716 Summit Ave.; A. F. Perrin, 221 W. Graham St., both Richmond, Va.; Jewell-Riddle Co., Inc., Sanford, N. C.; Townsend Lumber Co., N. Towers St., Anderson, S. C.; Macdonald Spencer Engineering Co., Inc., Graybar Bldg., New York; Joe B. Martin, 211 Kinney Bldg.; Goode Construction Co., 11 E. Fifth St.; A. Lloyd Goode, Inc., all Charlotte, N. C.; Worsham Bros., Empire Bldg., Knoxville, Tenn.; Ed. S. Moore & Son, 610 N. Washington St., Kokomo, Ind.; Harwood Construction Co., Law Bldg.; H. & L. Electric Co., 4415 Huntington Ave.; Noland & Co., 322 28th St., all Newport News, Va.; Crane Co., 1225 I St., N. W., Standard Art Marble & Tile Co., 334 C St., N. W., both Washington, D. C.; W. P. Rose, Wayne Natl. Bk. Bldg., Goldsboro, N. C.; Murch Bros. Construction Co., Ry. Exch. Bldg., St. Louis, Mo.; Consolidated Supply

Co., 1102 N. Charles St., Baltimore, Md.; J. T. Wornum, Phoebus, Va.; Cut Stone Association of Indiana, Bloomington, Ind.; A. S. Bacon & Sons, Schwarz Ave., Savannah, Ga. 4-9

Va., Norfolk—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected Benjamin F. Mitchell, Arcade Bldg., Wickham C. Taylor, Citizens Bank Bldg., and Rudolph, Cooke & Van Leuween, Arcade Bldg., as associate architects for \$1,500,000 Federal bldg., Bute St. and Brambleton Ave., Monticello Ave. and Granby St. 3-26

Hospitals, Sanitariums, Etc.

Ala., Birmingham—Jefferson County Bd. of Commrs. remodel Hillman Hospital; plumbing, wiring, heating, steel stairs, interior repairs, elevator; Turner & Van Arman, Archts., 1212 Martin Bldg.; preliminary plans.

Ala., Birmingham—Children's Hospital, 710 S. 30th St., expend \$25,000 for remodeling.

Ala., Mobile—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., selected Warren, Knight & Davis, Protective Life Bldg., Birmingham, and Chandler C. Yonge, Merch. Natl. Bank, Mobile, as architects for U. S. Marine Hospital buildings and remodeling present structures.

Ala., Tuscaloosa—Additional prospective estimators on U. S. Veterans Hospital, bids April 21 by U. S. Veterans Bureau, Arlington Bldg., Washington, D. C.: General—Ring Construction Co., Minneapolis, Minn.; L. W. Hancock, Louisville Trust Bldg., Louisville, Ky.; Batson-Cook Co., Inc., West Point, Ga.; Herbert Cargile Construction Co.; E. C. Coston Construction Co., 3019 Sixth Ave., S., both Birmingham, Ala.; Ralph Solitt & Sons Construction Co., 228 N. LaSalle St.; L. Balkin Co., 1850 W. Austin Ave., both Chicago, Ill.; Geo. E. Wyne, 2539 Pa. Ave., N. W., Washington, D. C.; Rogers & Levant, Inc., 822 E. 11th St., Chattanooga, Tenn.; H. B. Nelson Construction Co., 1201 Owsley Ave., Columbus, Ga.; A. H. Guion & Co., 256 W. Main St., Gastonia, N. C.; Rock City Construction Co., 125 Fourth Ave., South, Nashville, Tenn.; Ward & Ward, Virginia and Winslow Sts., Charleston, W. Va.; O'Pry Plumbing & Heating Co., Walton, Bldg.; J. B. McCrary Co. (p. and h.), both Atlanta, Ga.; Fischer Heating & Plumbing Co., 367 Adams St., Memphis, Tenn.; Wm. Wilby, (p. and h.), Selma, Ala.; W. W. Durall, Inc., (p. and h.), Lakeland, Fla.; Kissel Bros., Inc., (h. and v.), Hartford, Wis.; E. K. Gunn & Co., Security Bldg. (p. and h.), Miami, Fla.; J. J. Nolan & Co., Inc. (p. and h.), 235 Court Ave., Memphis, Tenn.; John Douglas & Co. (p. and h.), Washington; Pate Co. (p. and h.), 2213 Avenue A, South, Birmingham, Ala.; Chas. E. Mumford, (p. and h.), Fairmont, W. Va.; Pennsylvania Engineering Co., (refrig.), 119 N. Howard St.; York Ice Machinery Co., (refrig.), 1238 N. 44th St.; Creamery Package Manufacturing Co., 2412 Walnut St., all Philadelphia; Wittenmeier Machinery Co., 650 N. Spaulding Ave., Chicago; Brunswick-Kroeschell (refrig.), New Brunswick, N. J.; Vilter Manufacturing Co. (refrig.), Milwaukee, Wis.; Automatic Heat & Power Co., Inc., 1913 First Ave.; Haralson Sales Co., Inc., (refrig.), 2020 Seventh Ave., South, both Birmingham; Bodine Ice Machine Co., 3906 Benton Ave., Kansas City, Mo.; Schultz & Fuhr, Inc. (elect.), 207 E. Erie St., Milwaukee, Wis.; Young Electric Works, 857 Reynolds St., Augusta, Ga.; Ray A. Phelps (elect.), Beloit, Wis. 4-9

D. C., Washington—District Commrs., Dist. Bldg., A. L. Harris, Municipal Archt., selected Thos. B. Kidner, 175 5th Ave., New York, as consulting architect for \$500,000 tuberculosis hospital for children, Defense Highway. 4-24-30

D. C., Washington—Additional prospective estimators on \$240,000 tuberculosis bldg., St. Elizabeth's Hospital, bids April 30 by Department of Interior, Jos. M. Dixon, First Asst. Sec.; Bahen & Wright, 916 R. I. Ave., N. E.; Malatico Construction Co., 805 Fifth St., N. W.; Otis Elevator Co., 810 18th St., N. W.; Geo. E. Wynn, 2539 Pa. Ave., N. W.; Loudoun-Rust Co., First Natl. Bk Bldg.; Graham Construction Co., Washington Bldg.; Crane Co., 1225 I St., N. W.; Boyle-Robertson Co., Evans Bldg.; Skinker & Garrett, 1719 I St.; Arthur L. Smith & Co., 2539 Pa. Ave., N. W.; Consolidated Engineering Co., 15th & B Sts., N. W.; Standard Art Marble & Tile Co., 334 C St., N. W.; Millwork Sales Corp., 1334 11th St., S. E., all Washington; Chas. Shutrump & Sons Co., Euclid Bldg., Cleveland, O.; Ellington-Miller Co., 25 E. Jackson Blvd., Chicago, Ill.; W. P. Rose Co., Wayne Bk. Bldg., Goldsboro, N. C.; Decatur Iron & Steel Co., Decatur, Ala.; McCloskey & Co., Inc., 1620 Thompson St.; Geo. H. Evans, 1416 Vine St., both Philadelphia, Pa.; Testa, Landino & Scurto Engineering

Co., 317 Hanover St., Boston, Mass.; Murch Bros. Construction Co., Ry. Exch. Bldg., St. Louis, Mo.; Virginia Engineering Co., First Natl. Bank Bldg., Newport News, Va.; D. V. Debo, Brookland, Washington, D. C.; Henry L. Maas & Sons, Inc., 1119 Ensor St.; Consolidated Supply Co., 1102 N. Charles St.; North-Eastern Construction Co., 6 W. Madison St., all Baltimore, Md.; J. H. Coleman, Clarendon, Va.; Warner Elevator Manufacturing Co., 2613 Spring Grove Ave., Cincinnati, O.; Turner Construction Co., Buffalo, N. Y. 4-9

D. C., Washington—Emergency Hospital, 1712 F St., remodel and erect addition to bldg.; construct passageway; struct. steel, iron, metal doors, wood floors, tar and slag roof, conc., dampproofing, tin work, marble, tile, terrazzo, linoleum.

Fla., Orlando—Florida Sanitarium and Hospital, Drawer 1100, C. A. Rottmiller, Mgr., advises plans for \$150,000 hospital delayed; Howard M. Reynolds, Archt., 423 S. Orange St. 4-9

Ga., Savannah—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., expend \$18,000 on Marine Hospital.

Miss., Jackson—Mississippi Building Commission, R. L. Brown, Sec., New Capitol Bldg., Jackson, opens bids May 4 for 8 bldgs., \$5,000,000 Mississippi Insane Hospital, Rankin County; N. W. Overstreet, Archt., Standard Life Bldg.; Jackson; Vinson B. Smith, Advisory Archt., Gulfport; plans from Archt. 4-9

Tenn., Chattanooga—Erlanger Hospital, S. Bartow Strong, member of board, expend \$15,000 for improvements.

Tex., Austin—State Bd. of Control, Claude D. Teer, Chmn., Austin, erect \$50,000 dormitory, Abilene State Hospital; brick, stone, struct. clay tile, rein. conc., 2 stories; David S. Castle Co., Archt., Alexander Bldg., Abilene; preliminary sketches.

Tex., Galveston—Following general contractors estimating on nurses' home, John Sealy Hospital, for Sealy-Smith Foundation, bids April 20: American Construction Co., Gulf Bldg.; Knutson Construction Co., 867 Union Natl. Bank Bldg.; Northern Construction Co., 501 Esperson Bldg., all Houston, Tex.; Harry B. Friedman, Sinclair Bldg.; James T. Taylor, Aviation Bldg., both Fort Worth, Tex.; Robert E. McKee, 1900 Texas St.; J. E. Morgan & Sons, 319 Texas, both El Paso, Tex.; Ed W. Oeffinger, 710 Avenue A; Walsh, Burney & Key, P. O. Box 822, both San Antonio, Tex.; S. & W. Construction Co., P. O. Box 187, Randolph Field, Tex.; H. W. Underhill Construction Co.; Nathan Wohlfeld, both Construction Bldg.; Watson Co., 1927 S. Akard St., all Dallas, Tex.; J. W. Zempter, 1813 24th St., Galveston; Nolan Stewart, Adams Bldg., Port Arthur, Tex.; Christy-Dolph-Collins Co., 902 Goodhue Bldg., Beaumont; following contractors estimating on mechanical work: Plumbing and heating—Dallas Heating & Ventilating Co. (heating only), 2422 Alamo St.; G. D. Harris & Co., 109 W. Jefferson St.; Harry Kahn Plumbing Co. (plumbing only), 517 S. Ervay St., all Dallas, Tex.; Dixie Heating & Ventilating Co., 109 Fannin St.; Geo. J. Robischung, P. O. Box 1295; Warren Co., 614 Walker St., all Houston, Tex.; Fox-Schmidt, 415 W. Sixth St., Austin, Tex.; Jud & Ormond, 703 N. Flores St.; A. H. Shafer, Inc., 829 N. St. Marys St.; West & Gutzelt, 431 S. St. Marys all San Antonio, Tex.; Chas. E. Mumford, 6 Locust St., Fairmont, W. Va.; Plumbing & Heating Co., Inc., 985 Orleans St., Beaumont, Tex.; A. J. Warren, 2313 Avenue E, Galveston, Tex.; Young & Pratt, Lubbock, Tex.; Electric Co., 505 Jones St., Fort Worth, Tex.; Balcke Electric Co., 611 Capitol Ave., Houston; Electric Construction Corp., 209 S. Pecan St., Dallas; Fox-Schmidt, 415 W. Sixth St., Austin; Innocenti Electrical Co., 419 20th St., Galveston; J. E. Morgan & Sons, 319 Texas St., El Paso, Tex.; A. H. Shafer, Inc., 829 N. St. Marys St., San Antonio; Robt. Leon White, Supvg. Archt.-Engr., University of Texas, Austin; Dr. Christopher Parnall, Consultant, Rochester, N. Y. 3-26

Hotels and Apartments

Tex., Longview—Mrs. I. E. Hathaway, Gainesville, having plans prepared for 36-room apartment, E. Methvin and First Sts.

Miscellaneous

Fla., Miami Beach—Albert Bouche, Two 14th St., remodel and erect addition to Villa Venice Club, 14th St. and Ocean Drive; Geo. Bruce, Archt., Meyer-King Bldg., Miami; bids in. 4-9

Ga., Atlanta—Governors Horse Guards, Piedmont Road, care Scott Hudson, Atlanta Athletic Club, ready for bids for barn; frame, comp. roof; Pringle & Smith, Archts., Norris Bldg.

La., Alexandria—Hixson Brothers, 621 Third St., erect \$30,000 funeral home, 6th and Jackson Sts.; 2 stories, brick and conc.

Mo., St. Louis—C. R. Lupton & Sons, 4449 Olive St., has plans by Bonner & Pearce, 41 Olive St., for \$100,000 church, 7200 block Delmar Blvd.; chapel to seat 250 people.

N. C., Raleigh—Tar Heel Club, Walters Durham, Pres., having plans prepared by H. P. S. Keller, 129 Hillcrest St., for clubhouse to replace structure recently burned at recreational center near Milburnie on Neuse River. 4-9

Tex., Brownsville—University Club, R. B. Creager, Pres., plans \$50,000, 2-story and basement club building; 21 rooms, gymnasium, lounge and library.

Tex., San Antonio—Longhorn Athletic Club, E. H. Kifer, Pres., 211 Terrell St., Robert M. Ayres, Sec., considering erecting \$1,000,000 clubhouse, Villita St.; 14 stories and basement, fireproof, 118 ft. frontage, ground area of 16,500 sq. ft.; first floor for shops; next seven floors for clubrooms with bowling alleys, gymnasium, running track, swimming pool, hand and basket ball courts, squash courts and other indoor games, Turkish and Swedish baths; 150 guest rooms, all with private baths; top six floors for merchandizing mart; Atlee B. and Robt. M. Ayres, Archts., Smith-Young Tower.

W. Va., Martinsburg—M. A. Little purchased Hutsler Bldg., recently damaged by fire at loss of \$12,000, and rebuild; first floor prob. for billiard parlor and bowling alleys; second for apartments.

Schools

Ala., Bessemer—City votes April 30 on \$110,000 school building bonds.

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., have low bid at \$91,980 from Arthur L. Smith & Co., 2539 Pennsylvania Ave., N. W., for Western High School athletic field; A. L. Harris, Municipal Archt. 4-2

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., have low bid at \$91,825 from Martin Brothers, 743 14th St., N. W., for automobile repair shop at Columbia Jr. High School; A. L. Harris, Municipal Archt. 4-9

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Dept., Dist. Bldg., soon have plans completed for 2-story, brick, fireproof school, 14th and Kalmia road, N. W.; A. L. Harris, Municipal Archt.

Fla., Daytona Beach—Bethune-Cookman College for Negroes has plans by H. M. Griffin, 309 N. Grandview Ave., for two buildings to cost approx. \$130,000; brick, tile, stone trim, comp. roof.

Ga., Atlanta—Following contractors estimating on \$90,000, 3-story and basement, rein. conc., brick and tile Cloudman Dormitory on Techwood Drive, N. E., for Georgia School of Technology, Dr. M. L. Brittan, Chmn., Bldg. Comm., bids April 23: Gilbert Beers, J. S. McCauley Co., Norwood Griffin, and George A. Clayton Co., all Bona Allen Bldg.; Barge-Thompson Co., Ellis St.; Williams Construction Co., Grahn Construction Co., The Flagler Co., all Red Rock Bldg.; Capitol Construction Co., Standard Bldg.; Southern Ferro Concrete Co., Ellis St.; Smith-Pew Construction Co., 436 Irwin St., N. E.; Brazell-Miller & Newbanks, Norris Bldg.; Pittman Construction Co., Rhodes Bldg., all Atlanta; Murphy Pound, Columbus; Bush-Brown & Gailey, School Archts.; H. J. C. Pearson, Elec. Engr., Mortgage Guarantee Bldg.; F. E. Market, Mech. Engr.; 3 stories and basement, rein. conc., brick and tile, struc. steam beams, hollow tile partitions, Vitrolite interior trim with alternate on Ga. marble, Indiana limestone trim, cement, hardwood and tile floors, slate roof. 4-9

Ga., Atlanta—Fulton County votes May 23 on \$500,000 bonds for school building program; Jere Wells, Supt. of Education, Court House. 4-2

Ga., Dalton—Center Point Consolidated School Dist. voted \$25,000 bonds for 16-room and auditorium school; Alvin White, Whitefield County Supt. of Education.

Ga., LaGrange—School Bd., F. F. Rowe, Supt., receives bids April 20 for \$30,000, one-story and basement, 8-classroom and cafeteria school; brick veneer, comp. roof; Burge & Stevens, Archts., Marietta Bldg., Atlanta; following contractors estimating: George Spruill, Moore Mill Road, Atlanta; Gates Brothers, College Park; Newman Lumber Co. and Fellows & Melton, LaGrange. 3-19

Ga., Thomasville—Following contractors estimating on \$25,000, one-story and basement, brick veneer school, bids April 28 by Bd. of Education: Daniel Lumber Co., LaGrange; Prince E. Ginright, Thomasville; H. H. Brown, Dothan, Ala.; O. B. Hinds, Albany; J. B. Adams, Tifton; J. M. Culpepper & Son, comp. roof, wood floors; Lockwood & Poundstone, Archts., Marietta Bldg. 4-2

Ga., Tifton—Bd. of Education, H. F. Gibbs, Chmn., receiving bids, date to be set in few days, for \$40,000, one-story and basement, 168x120 ft., brick veneer high school; comp. shingle roof; Daniel & Beutell, Archts., Ga. Savings Bank Bldg.; following contractors estimating: George Spruill, Moores Mill Rd.; Grahn Construction Co., Red Rock Bldg.; J. F. Higdon, Silvey Bldg., all Atlanta; Jno. T. Ragan, Vidalia; Newton Coal & Lumber Co., Griffin; W. H. Spooner and Joe Adams, Tifton; McCowen Bros., Fitzgerald; R. H. McEachern, Douglas. 4-9

Ky., Dundee—Ohio County Bd. of Education, D. L. Schultz, Supt., Hartford, receives bids April 28 for \$25,000, 2-story, 136x80 ft. school; wood over conc. floors, built-up roof; Clarence W. Kimberlin, Archt., 1001 Frederica St., Owensboro. 4-9

Ky., Glasgow—Bd. of Education receives bids April 28 for \$75,000, 2-story and basement, 146x72 ft., brick and rein. conc. high school; built-up roof, cast stone, limestone, plaster board, steel sash and trim, hollow and interior tile, vaults, ventilators, brass and bronze work; Harry E. Boyle & Co., Archts., Furniture Bldg., Evansville, Ind. 2-19

Ky., Lost Creek—G. C. Drushell interested in erection of school to take place of Riverside Institute.

La., Houma—Terrebonne Parish voted \$160,000 bonds for school building program; brick; soon select architect.

La., New Orleans—Following contractors estimating on 3-story, 90x170 ft. brick, stone trim, 16-room Henry W. Allen elementary school, bids April 21 by Orleans Parish School Bd., A. J. Tete, Sec.; J. A. Petty & Sons, Inc., Audubon Bldg.; J. V. & R. T. Burkes, Inc.; Chas. Gilbert Construction Co., both Am. Bk. Bldg.; J. A. O'Brien; Lionel F. Favret, both Louisiana Bldg.; Richard McCarthy, Maritime Bldg.; Caldwell Bros., 816 Howard Ave.; H. Pratt Farnsworth, Canal Bank Bldg.; O. M. Gwin Construction Co., 3503 Fern St., all of New Orleans; J. M. DeFraithe, 612 State Bldg.; R. P. Farnsworth & Co., Maritime Bldg.; Anzalone Construction Co., Baltic Bldg.; H. W. Bond & Bros., 816 Howard Ave.; E. A. Christy, Supvg. Archt. for School Bd. 4-2

La., Simsboro—Simsboro School Dist. votes May 11 on \$40,000 bonds for school building, with auditorium seating 800, and for repair of present building.

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., receives bids April 29 for \$150,000, 3-story, conc. and brick, 8-classroom Forest Park Jr. High School, Garrison Ave. and Barrington Road; Smith & May, Archts., Baltimore Trust Bldg.; Kubitz & Koenig, Mech. Engr., Emerson Tower Bldg.; Henry Adams, Mech. Engr., Calvert Bldg.; following contractors estimating: P. C. Street Engineering Co., 404 St. Paul St.; Consolidated Engineering Co., 20 E. Franklin St.; Price Construction Co., Maryland Trust Bldg.; C. L. Stockhausen Co., Gay and Water Sts.; Henry L. Maas & Son, 1119 Ensor St. 4-2

Md., Baltimore—Bd. of Public Improvement Comsn., H. J. Leimbach, Supvg. Engr., ready for bids by May 1 for \$250,000 school, Mount St. near Riggs Ave.; Buckler & Fenhagen, Archts., 325 N. Charles St.; Henry Massart, Struc. Engr., 328 N. Charles St.; James Posey, Mech. Engr., Baltimore Trust Bldg. 1-15

Md., Baltimore—State Legislature passed bill authorizing City to vote on \$29,000,000 loans including \$10,000,000 for school buildings and improvements; H. J. Leimbach, Supvg. Engr. 3-26

Md. College Park—University of Maryland, Samuel M. Shoemaker, Chmn. Bd. of Regents, Fidelity Bldg., Baltimore, receives bids April 21 for horticultural building, alterations and additions to engineering building and 3-story, brick dormitory for women; Smith & May, Archts., Baltimore Trust Bldg.; Huldreich Eglil, Mech. Engr., 425 St. Paul Place, both Baltimore; following contractors estimating: Laechi Construction Co., Munsey Bldg.; Fraine Bros., 19 W. Franklin St.; M. A. Long, 10 W. Chase St.; Cogswell Construction Co., 406 Park Ave.; Price Construction Co., Maryland Trust Bldg.; Henry L. Maas & Sons, 1119 Ensor St.; Cramp & Co., 333 St. Paul Place; North-Eastern Construction Co., 6 W. Madison St.; all Baltimore; Geo. A. Fuller & Co., Munsey Bldg.,

T. T. Taylor, Commercial Natl. Bank Bldg., both Washington, D. C.; A. C. Warthen, Kensington, Md., only bidder on dormitory. 4-2

Miss., Hattiesburg—Forrest County voted \$25,000 bonds for one-story and auditorium brick high school in Eatonville Consolidated School Dist.; E. C. Hearon & Sons, Archts., 121 W. Pine St. 3-19

Miss., Morton—Following contractors estimating on \$45,000, one-story, 177x154 ft., brick, cast stone trim high school for Morton Consolidated School Dist., bids April 24: Westerfield & Weeks, Lamar Bldg.; W. J. McGee & Son, Lamar Bldg., both Jackson; Beckelheimer & Small; Pat Fowler; Keeton & Fairley; Oden & Glenn, Canter Bldg., all Hattiesburg; Lockard & Vaughan, Kidder Bldg.; McArthur & McLemore, 611 22nd Ave.; L. W. Hancock, 26th Ave., all Meridian; W. S. Rutter, Brookhaven; O. B. Douglass, Drew; M. T. Reed Construction Co., Belzoni; Currie & Corley, Raleigh; Howell Bros., Greenwood; A. M. Allen, Moorehead; Claude Westerfield, Mendenhall; Walter Perry, Philadelphia, Miss.; Dye & Mullings, Oxford; L. E. and W. F. Breland, Poplarville; Bradley Brothers Construction Co., Laurel, Miss.; Hull & Malvaney, Archts., Merchants Bank Bldg., Jackson. 4-2

Mo., Bolia—School Bd., E. R. Elsbury, Supt., rebuild grade and high school damaged by fire.

Mo., Kansas City—Bd. of Education soon ready for bids for \$400,000, 3-story and basement, brick and rein. conc. high school addition, 30th St. and Van Brunt Blvd.; C. A. Smith, Archt., Finance Bldg. 10-2

N. C., Charlotte—Johnson C. Smith University, Dr. H. L. McCrorey, Pres., erect three buildings—memorial building to late James B. Duke, theological building and central heating plant.

N. C., Edenton—Chowan County Bd. of Education considering erecting \$20,000 school for colored children in territory including Virginia Fork, Walnut Hill and Edenton A. districts.

N. C., Norwood—Stanly County Bd. of Education, James P. Sifford, Supt., Albemarle, ready for bids about April 20 for \$35,000, 2-story, 57x116.6 ft., brick and frame high school; oak floors, built-up roof, cast stone, plaster board, hollow tile, ventilators; Thos. H. Yoe, Archt., Box 5, Salisbury, N. C. 3-12

Okla., Harrah—Harrah School Dist. plans vote on \$50,000 bonds to erect school to replace recently burned structure; E. O. McClurg, Pres., School Bd. 3-19

Tenn., Blountsville—Sullivan County soon vote on \$112,000 school bonds for new buildings and additions as follows: Bluff City, \$43,500; Blountsville, \$43,500; Piney Flats, \$5,000; Holston Institute, \$19,500; address County Bd. of Education.

Tenn., Erwin—Unicoi County plans vote on \$55,000 bonds for building rural schools and indebtedness.

Tenn., Gallatin—Gallatin County School Bd. plans to start work latter part of May on \$75,000, T-shape, 217x140 ft., brick, stone trim high school; Georgian style, 14 classrooms, two science laboratories, cafeteria, kitchen, library, gymnasium and study hall; accommodate 500 pupils; Hart & Stone, Archts., Hitchcock Bldg., Nashville.

Tenn., Knoxville—Knox County authorized \$500,000 bonds for Central High School of 2 stories, 25 rooms, 2-story classroom and auditorium addition to Young High School and about 15 small brick buildings to replace frame structures; W. W. Morris, Supt. of Knox County Schools. 4-2

Tex., Austin—St. Edwards University, Very Rev. Joseph Burke, C. S. C., Pres., has low bid at \$30,887 from Frank Barron for two end wing additions; 4 stories, 42x38 ft. each, brick, stone, rein. conc., struc. steel, wood, terrazzo and cement floors; Giesecke & Harris, Archts., Norwood Bldg.

Tex., Austin—Legislature passed bill authorizing University of Texas to issue \$5,000,000 bonds for building purposes.

Tex., Los Fresnos—Town voted \$30,000 bonds for addition to school and \$5000 school at Citrus Gardens.

Tex., San Marcos—San Marcos Ind. School Dist. voted \$200,000 bonds for high school, grammar school, auditorium, cafeteria and gymnasium, all in one building; 2 wings; Ed. Taylor, Pres., School Bd.; plans by Harvey P. Smith, Natl. Bank of Commerce Bldg., San Antonio, ready about May 15. 2-19

Va., Danville—School Bd., G. L. H. Johnson, Supt., considering erecting school for negro children; \$35,000.

Va., Powhatan—Powhatan County School Bd. erect 2-story and basement, 106x125 ft., brick, high school; 10-classrooms, study hall and auditorium, manual training and shop; Fred A. Bishop, Archt., Electric Bldg., Richmond.

Va., Richmond—Right Rev. A. J. Brennan, Bishop of Catholic Diocese of Virginia, Chmn. Bldg. Comm., ready for bids for power plant on grounds St. Joseph's Academy and Orphanage at Hollybrook farm on Richmond-Washington highway; will add another unit to \$1,000,000 construction project undertaken last year, now nearing completion; brick, 40x111 ft.; Carneal, Johnston & Wright, Archts., Builders' Exchange Bldg.

Va., Salem—Roanoke County changed election date from April 14 to May 12 on \$350,000 bonds for following building program: Salem High School, \$150,000; Vinton, \$4,000; Williamson Road, \$85,000; Pleasant View, \$7500; Mount Pleasant, \$7500; Garden City, \$13,000; Back Creek, \$15,000; Catawba, \$7000; Conehurst, \$20,000; Roland E. Cook, Supt. of Schools. 3-12

Va., Tazewell—Tazewell County votes May 5 on \$135,000 bonds in Jeffersonville Dist. for \$75,000 high school at Tazewell, \$25,000 grade school at North Tazewell, \$30,000 grade school at Bishop and \$5000 for one-room buildings in Poor Valley and Thompson Valley, and additional room for colored school at Tazewell; address Tazewell County School Bd. 3-19

Stores

D. C., Washington—J. A. Pierpont, 310 12th St., N. W., has permit for \$12,000, one-story shop and office, 1324 Four-and-a-half St., S. E.

D. C., Washington—Mrs. Lillian Douglas, care W. S. Plager, Archt., 1930 Kearney St., N. E., erect one-story, limestone and brick store, 5023 Connecticut Ave., N. W.; Great Atlantic & Pacific Tea Co., 801 Channing Pl., N. E., Lessee; bids in. 4-9

Ga., Atlanta—Whitehead Realty Co., Norris Bldg., soon let contract for one-story and basement, 30x35 ft., brick store, 225-7 Peachtree St., N. E.; comp. roof; Pringle & Smith, Archts., Norris Bldg.

La., New Orleans—United China and Glass Co., Joseph W. Moses, Pres., leased three 4-story brick buildings, 410-18 Canal St. and 411-17 Common St., and remodel and consolidate.

N. C., Asheville—Frank Loughran, 49 Biltmore Ave., plans \$25,000, 2-story and basement, 100x40 ft., brick, rein. conc. business building, 35 Haywood St.

N. C., Asheville—T. S. Morrison & Co., 47 Broadway, plans remodeling 3-story and basement, 147x52 ft. building, 39-41 Lexington St.; \$20,000.

Tenn., Athens—Mrs. Essie Horton rebuild Athens Furniture Co.'s store, recently destroyed by fire; \$12,500, one story and basement, 38x57 ft., brick, conc. and wood floors, cast stone, metal ceilings, metal doors, built-up flat roof, steel sash and trim, wide glass, brass and bronze work; Clem. H. Meyer, Archt.; bids in April 17.

Tex., Dallas—J. T. Piranio, 1247 S. Ewing St., owner of block of business houses on W. Jefferson St., between Zang and Madison Sts., noted burned; will rebuild; \$50,000.

Tex., Henderson—J. E. Arnold erect 2-story brick building one-story brick building on W. Jackson St.; contract let.

Tex., Henderson—M. Kangera and Brother soon let contract for improvements and additional story to Kangera Bldg.; \$30,000.

Tex., San Antonio—N. Guerra, care Max Sandfield, 939 Milam Bldg., erect 30x49 ft., one-story, tile, stucco, and rein. conc. store and filling station, N. New Braunfels and Paso Hondo; bids in.

Va., Portsmouth—Will Laderberg, Propr., Will Laderberg's Department Store, 900 High St., purchased Ogg Bldg., 719-21 High Street, and remodel for store; new front, interior improvements, new fixtures; total expenditure \$100,000.

Theatres

D. C., Washington—Following contractors estimating on one-story, brick, cast stone motion picture theater, 640-54 Pennsylvania Ave., S. E., for Warner Bros., H. M. Warner, Pres., 321 W. 44th St., New York, date bids not set: Golder Construction Co., Juniper and Market Sts., Philadelphia, Pa.; Wm. P. Lipscomb Co., 1406 G St.; Skinker & Garrett, 1719 Eye St., N. W.; Schneider-Spiedt Co., 1416 F St.; A. L. Smith & Co., 2539 Pennsylvania Ave.; C. H. Tompkins Co., 1608 K

St., N. W., all Washington; John Ebersson, Archt.; Ruderman & Severud, Struc. Engr., both 370 Lexington Ave., New York. 1-1
 Tex., Kilgore—East Texas Theatres, Inc., Sol E. Gordon, Pres., Perlstein Bldg., Beaumont, plans \$30,000 theater.

Warehouses

D. C., Washington—E. H. Davis Co. has permit for \$10,000, one-story, conc. and conc. block warehouse and storage shed, rear 323 Cedar St., N. W.

BUILDING CONTRACTS AWARDED

Association and Fraternal

S. C., Ridgeland—American Lodge No. 98, A. F. & A. M., let contract at \$9996 to H. P. Little & Son, Conway, for brick temple and store; 2 stories, 53x58 ft., wood floors, conc. foundation, tin roof; Levy & Clarke, Archts., Blum Bldg., Savannah, Ga. 4-9

Va., Hopewell—DuPont Lodge No. 289, A. F. & A. M., let contract at \$20,000 C. G. Hughes, 116 N. 16th Ave., for temple, Broadway and Eighth St.; limestone and brick, 2 stories; Osbert L. Edwards, Archt. 3-27-30

Bank and Office

La., New Orleans—Following sub-contracts let on 6-story, \$150,000 annex to bldg. of Standard Oil Company of Louisiana, St. Charles and Jackson Aves.: Painting, Walter Scrimshaw, 4300 Elba St.; elect. installations, Electric Service, Inc., 813 Howard Ave.; plumbing and heating, Korn Bros., 1820 Baronne St.; rein. steel, Ole K. Olsen, 325 N. Cortez St.; roofing, bldg. material and ready mixed conc., J. J. Clarke Co., 1601 Julia St.; glazing, H. Flaimhaft, 321 Dryades St.; millwork, National Sash & Door Co., Inc., 600 N. Dupre St.; sanitary caustic ceiling, Taylor-Seidenbach, Inc., 1401 Tchoupitoulas St.; steel windows, screens and asphalt tile floors, Nachary Builders Supply Co., Inc., 318 Carondelet St.; conc. sills, Edward D. Boyle Co., Inc., 3301 Julia St.; hauling, Edward Clade, 1207 Alvar St.; ceramic tile floors, Tile Shop, Inc., 824 Carondelet St.; sheet metal work and ventilators, Blattmann-Weeser Sheet Metal Works, Inc., 1001 Toulouse St.; marble toilet partitions and granite entrance, Southern Builders Material Co., Inc., Maison Blanche Bldg., all New Orleans; piling, Kent Piling Co., Plucker, La.; plans by Constr. Dept., R. A. Riddle, Ch. Engr.; W. Horace Williams Co., Inc., Contr., 833 Howard Ave. 11-13

Tex., Dallas—Silica Gel Corp., Baltimore Trust Bldg., Baltimore, Md., has contract to install air conditioning equipment in \$900,000 Dallas Gas Co. bldg.; Lang & Witchell, Archts., First Natl. Bank Bldg.; Gardner & Howe, Struct. Engrs., Kirby Bldg.; Jopling Construction Co., Contr., Fidelity Union Bldg. 11-27

Tex., Galveston—Mosher Steel & Machinery Co., 520 Maple St., Dallas, Tex., has contract for 1000 tons, struct. steel for \$1,000,000 general office bldg. for Gulf, Colorado and Santa Fe Railway Co.; plans by Engineering Dept., K. B. Duncan, Ch. Engr., Galveston; Robt. E. McKee, Contr., 1918 Texas St., El Paso. 3-19

Churches

Md., Baltimore—Fourteen Holy Martyrs R. C. Church erect chapel, 101 S. Mount St.; August Sabers, Contr., care owner.

N. C., Winston-Salem—Ardmore Moravian Church let contract to Clyde C. Culler, 1139 E. 25th St., for brick bldg.; steel truss; brick and sand on site; Northrup & O'Brien, Reynolds & Co. Bldg., Archts. 4-9

Tenn., Ducktown—Mine City Baptist Church, Rev. O. Foster, Pastor, let contract to Carl Center & Son for \$12,000 bldg. to replace burned structure; foundation completed; brick veneer, 2 stories and basement, 37x70 ft., gabled or hip roof; plans by Sunday School Bd. of Southern Baptist Convention, Nashville; Jas. Weaver, Engr., Ducktown. 2-11

City and County

La., New Orleans—B. A. Russ, Contr., 4 Palatin Place, erect 1-story single bungalow, Old Homestead sub-division Metairie.

La., Shreveport—Caddo Parish Police Jury let contract at \$53,862 to Ashton Glassell, Inc., 260 Cadillac St., for fireproof jail; 2 stories, rein. conc., brick, built-up comp. roof, steel and iron work, steel jail equipment; accommodate 100; Edw. F. Neild, Archt., City Bk. Bldg.; low bid at \$15,550 on jail equipment from Fries & Son Steel Construction and Engineering Co., Covington, Ky. 4-2

Dwellings

Ala., Birmingham—J. E. Walker, care W. E. Herron, Contr., 1810 S. 29th Ave., erect brick veneer residence; 2 stories and base-

ment, 45x30 ft., steam heat, asbestos roof, 2 baths; Sam C. Molloy, Archt., 1012 Protective Life Bldg.

Ala., Birmingham—Albert Allison, care Brookside Pratt Mining Co., Brown-Marx Bldg., let contract to F. E. Dunlap, 1010 S. 11th Ave., for \$12,000 residence, Bush Mills; brick veneer and half-timber, 2 stories, 44x30 ft., 2 tile baths, slate roof; Turner & Van Arman, Archts., 1212 Martin Bldg. 12-4

Ala., Birmingham—Crawford Johnson, Jr., 3301 N. 11th Ave., let contract to L. E. Ford, Mountain Brook Village, for stucco and tile residence, Cherokee Rd., Mountain Brook; stone trim, 2 stories and basement, 32x115 ft., slate roof, 4 baths, 3-car garage with 4 servants' rooms and 2 baths; Holabird & Root, Archts., Comer Bldg.

D. C., Washington—Boss & Phelps, 1416 K St., N. W., have permit for 4 brick dwellings, 1700-09 Hoban Rd.; 2 stories; total \$58,000; Horace W. Peaslee, Archt., 1228 Conn. Ave., N. W.; also erect 6 dwellings, 4432-41 Faraday Place, N. W.; John W. Kearney, Archt., 1417 K St., N. W.; owner builds.

D. C., Washington—Walter Vaughn, 12th and Upshur St., N. E., has permit for \$8500 brick and frame dwelling, 1003 Varum St., N. E., and \$7,100 brick and cinder block dwelling, 1007 Varum; 2 stories; owner builds.

D. C., Washington—Paul P. Stone, Inc., 1103 Vermont Ave., N. W., has permit for 2 brick and frame dwellings, 3414-16 Morrison St., N. W.; 2½ stories; total \$14,000 owner builds.

D. C., Washington—H. B. Thompson, Star Bldg., has permit for 2 brick dwellings, 35-37 Longfellow St., N. W.; 2 stories; total \$11,000; owner builds.

D. C., Washington—C. H. Small & Co., 925 Fifteenth St., N. W., erect 4 brick and frame dwellings, 4400 block 14th St., N. E.; 2 stories, tin roof, hot water heat; total \$25,000; Geo. T. Santmyers, Archt., 1416 I St., N. W.; owners build.

D. C., Washington—Robt. E. Kline, Union Tr. Bldg., erect 7 brick dwellings, 412-24 17th St., N. E.; 2 stories, tin roof, hot water heat; owner builds.

D. C., Washington—H. F. Gates, care Takoma Bank, Takoma Park, erect \$10,000 brick and hollow tile residence, 7205 Eighth St.; 1½ stories, comp. roof, hot water heat; Milton Bollman, Contr., 33 Westmoreland Ave., Takoma Park.

D. C., Washington—District Construction Co., Inc., has permit for \$12,000 brick and tile dwelling, 1418 Juniper St.; 2 stories.

D. C., Washington—Columbia Construction Co., 521 Irving St., N. W., erect \$13,000 dwelling, 704-06 Concord Ave.; 2 stories, conc. block, stone and brick, slate roof, hot water heat; owner builds.

Fla., Winter Park—Geo. F. West, Portland, Me., let contract to Emmett Nicholson for \$40,000 Mediterranean type residence, Georgia Ave. and Seminole Drive; stucco, 14 rooms, tile baths; Maurice Kressley, Archt.; landscaping by Superior Nurseries, all Winter Park. 4-2

Ga., Atlanta—H. W. Nicholes, 142 Brighton Rd., erect \$20,000 brick veneer residence, Dellwood Drive, Haynes Manor; 1 story, 10 rooms, 2 tile baths, conc. foundation, hardwood floors, comp. shingle roof; owner builds.

Ga., Atlanta—A. H. O'Shields, 1191 Glenwood Ave., S. E., erect brick veneer residence, 1362 Wayne Ave., N. E.; 1 story, comp. roof, hot air heat; owner builds.

Ga., Atlanta—H. B. Schumpert, 240½ Ivy St., erect brick veneer residence, 1730 Westwood Ave., S. E.; 1 story, comp. roof, hot air heat, 7 rooms, 2 baths; owner builds.

Ga., Atlanta—Gilliam & Co., 30 Rogers St., S. E., erect brick veneer residence, 1167 Lanier Blvd., N. E.; 1 story, 6 rooms and bath, comp. roof, hot air heat; owner builds.

Ga., Austell—Clark Thread Co., John B. Clark, Pres., Newark, N. J., let contract to Fiske-Carter Construction Co., Greenville, S. C., for 60 operatives' cottages; frame, common brick and cement foundations, 2, 3, 4, 5 and 6 rooms, single and double types, common brick chimneys and steps, cement and pine floors, Johns-Manville asbestos shingles, Crane plumbing; J. E. Sirrine & Co., Engrs., Greenville, S. C. 2-5

Ga., Jasper—Tate Mountain Estates, Inc., Candler Bldg., Atlanta, started work on \$20,000 addition to Connyhanie Lodge, Burrell Mountain, 13 miles from Jasper; 14 bedrooms, dining porch; stone foundation, frame constr., log veneer, 3 stories, 30x53 ft., oak and pine floors, chestnut shingle roof, marble work; DeFord Smith, Archt., 108 Peachtree Blvd., Atlanta; owner builds; W. D. Manning, Jasper, in charge of construction. 4-2

Ga., Macon—J. T. Lattimore, Fort Deposit, Ala., erect \$17,000 brick veneer residence, Wesleyan Drive; English type, 1 story, 12 rooms; W. Elliott Dunwoody, Jr., Archt., 48 Broadway; W. A. Stillwell & Sons, Contrs., Grand Bldg., both Macon.

Ga., Tifton—Roy Smith has contract for brick veneer duplex; hardwood and tile floors, comp. roof.

Ga., Tybee—W. J. Bremer, 753 Wheaton St., Savannah, erect solid brick residence, Tybee Island; 2 stories and basement, 9 rooms, 5 baths; Cletus W. Bergen, Archt., Liberty Bank Bldg., Savannah; Tybee Construction Co., Contr., Tybee.

La., New Orleans—A. Leagier erect single residence, State St., near Fontainebleau Dr. sheet metal work, screens, orna. iron, tile roof; E. L. Markel, Contr., 3838 Louisiana Ave. Pkwy.

La., New Orleans—W. F. Toronto, 2415 Acacia St., erect double residence and garage, 2411-13 Acacia St.; J. Toronto, Contr., 2409 Acacia.

La., New Orleans—Mrs. A. D. Wilson, 840 Louisiana St., considers erecting residence, Arlington Drive; work starts in about 90 days; archt. not selected.

La., New Orleans—B. C. Johnson, Contr., 2524 Sage St., erect double dwelling, 2514 Sage St.; sheet metal work.

Md., Baltimore—John Watson, Jr., Munsey Bldg., erect two 1-story, brick buildings, 501 Radnor Ave.; \$10,000ff A. L. Van Sicken, Archt.; owner builds.

Md., Baltimore—Frank Novak Realty Co., 33rd St., erect 16 brick dwellings, 3401-31 Shannon Drive, after plans by G. F. Smithson, 2225 Peleram Ave.; 2 stories, 18.10x44 ft. and 19x44 ft. and 18x44 ft., hot water heat; total \$48,000; owner builds. 4-2

Md., Baltimore—Milton R. Lerch, Bldr., 5206 Harford Ave., erect 3 dwellings, 4303 and 4403-05 Walther Ave.; 2 stories, 24x26 ft., 31x30 ft. and 28x30 ft.; total \$20,000.

Md., Baltimore—Otto S. Unger, 4104 E. Frankford Ave., erect 4 conc. block dwellings and garages, 3800-06 Biddison St.; 2 stories, 28x43 ft.; total \$12,000; owner builds.

Md., Baltimore—Miller & Miller, 766 E. 36th St., erect 3 conc. block dwellings, 3107-11 Rosekamp Ave.; 2 stories, 30x34 ft.; total \$10,000; owner builds.

Md., Baltimore—H. W. Webb, 2202 Crest Rd., erect residence, 2201 Crest; E. H. C. Brown, Archt., Fidelity Bldg.; Geo. J. Smith, Contr., 6214 Smith Ave., Mt. Washington.

Md., Baltimore—A. Rosuadowski, 216 S. Eden St., erect brick residence, 3 stories, 17x23 ft.; owner builds.

Md., Baltimore—Dobihal & Novak, 701 Patterson Park Ave., erect frame residence, 3203 Berkshire Rd.; 1½ stories, 28x32 ft.; owner builds.

Md., Baltimore—Thos. Mullan, 3945 Greenmount Ave., erect 6 dwellings, Ridgemere Rd.; brick, 2½ stories, 24x36 ft.; Cyril H. Hebrank, Archt., 3 E. Lexington St.; owner builds.

Md., Bay Ridge, Annapolis—Earl Reeser has contract for 1-story frame dwelling, Cushing Ave.

Md., Bay Ridge, Annapolis—Thos. Edwards erect 1½-story frame residence, Bay Drive; Francis M. Miller, Contr., Bay Ridge.

Mo., University City, St. Louis—B. H. Prater, 7156 Amherst Ave., erect \$10,000 residence, 7320 Dartmouth St.; brick, 2 stories, 28x50 ft., conc. block foundation, tile roof, vapor heat; plans and constr. by owner.

Mo., University City, St. Louis—T. M. Foley, 1516 N. 17th St., erect brick residence and garage, 7144 Stanford St.; 2 stories, 28x39 ft., conc. foundation, slate roof, hot water heat; Marcel Boulicault, Archt., Ambassador Bldg.; W. C. Harding Construction Co., Contr., 722 Chestnut St.

Mo., St. Louis—Gus Eich, 3636 Watson Rd., erect 2 brick dwellings, 3631-3916 Childress St., 1 story, 22x27x45 ft., and 26x46 ft., comp. roofs, hot water heat; total \$10,000.

N. C., Charlotte—F. M. Simmons, 903 E. Blvd., erect 2 duplexes, Lamar Ave.; total \$17,000; T. W. Martin, Contr., 718 E. Fourth St.

N. C., Durham—I. L. Bailey erect brick veneer residence; 1 story, 6 rooms, shingle roof, pine, oak and tile floors; Ye Planry, Inc., Archt., 1713½ Live Oak St., Dallas, Tex.; plans complete.

N. C., Durham—Dr. W. A. Perlzweig erect \$12,000 residence; stained shingle walls, 2 stories, 30x45 ft., oak and linoleum floors, brick foundation, plaster board, Cedar rock shingle hip roof; Nelson & Cooper, Archts., 126½ Salisbury St.; Fidelity Construction Co., Contr., N. Corcoran St.

Okla., Tulsa—Don C. Putman, Morris Plan Bank, started work on Irish type brick residence, Haskell and Jamestown Sts.; Southwest Homes Corp., Contr., 322 S. Boulder St.

S. C., Aiken—Mrs. Gustavo L. F. G. di Rosa, Greenwich, Conn., let contract to McGhee & McGhee, Aiken, for \$50,000 frame and brick residence; Colonial type, 2 stories, conc. foundation, hardwood and tile floors, comp. or slate roof; Willis Irvin, Archt., S. F. C. Bldg., Augusta, Ga. 3-5

S. C., Charleston—Mrs. Edward V. Hartford, New York, soon start work on \$100,000 winter residence, Wando Plantation; Colonial type, white painted brick, 2 stories and basement with two 1-story and basement wings; landscaping; Delano & Aldrich, 136 E. 38th St., New York, Archts.; Artley Co., Contrs., Charleston, and 504 E. Bay St., Savannah, Ga.

S. C., Charleston—Mrs. Albert Goodwyn, Augusta, Ga., let contract to Wheatley & Mobley, 510 Crawford Ave., for residence; brick, 2 stories, 56x40 ft., wood joists, rein. conc., 2 baths, slate or tile roof; F. Arthur Hazard, Archt., 232 Masonic Bldg., Augusta. 4-2

W. Va., Peterstown—V. B. Smith erecting 7-room residence; constr. supervision by Mr. Overstreet, Bedford.

Government and State

D. C., Washington—Lehigh Structural Steel Co., Allentown, Pa., has contract for 100 tons struct. steel for District of Columbia reformatory.

D. C., Washington—Rosslyn Steel & Cement Co., 3031 K St., N. W., has contract for steel for foundation for \$240,000 U. S. Supreme Court Bldg.; Cass Gilbert, Archt., 244 Madison Ave., New York; G. B. Mullin Co., Inc., 1296 Upshur St., N. W., general contract for foundation. 3-19

Ga., Fort Benning—Constructing Quartermaster, Capt. W. M. Allison, let contract at about \$542,000 to Rogers & Leventhal, Inc., 822 E. 11th St., Chattanooga, Tenn., for 5 field and 51 company officers' quarters; stucco, rein. conc. and tile, tile and frame partitions, conc., oak and pine floors, Imperial tile roofs. 4-2

La., Barksdale Field, Shreveport—Constructing Quartermaster, Barksdale Field, let contract at \$383,303 to L. C. Maples Construction Co., 3614 Ave. H, Fort Worth, Tex., for 34 double non-commissioned officers' quarters; hollow tile. 4-2

Miss., Greenville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., let contract at \$17,819 to Samford Bros., Inc., 301 Washington Ave., Montgomery, Ala., for remodeling and enlarging post office.

Miss., Jackson—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, D. C., has site for post office.

Tex., Presidio—U. S. Dept. of Agriculture, Plant Quarantine & Control Administration, Washington, D. C., let contract at \$18,000 to Ramey Bros., Mills Bldg., El Paso, Tex., for car fumigation house; 3-course brick walls, 5-ply built-up roofs, fumigation chambers and storerooms; plans by Dr. Lon A. Hawkins, Engr., P. Q. C. A., Washington.

Va., Arlington National Cemetery—Constructing Quartermaster's Office, Room 2335 Munitions Bldg., Washington, D. C., let contract to Lewis Engineering & Construction Co., 714 K St., S. W., Washington, for timber stable; tile walls, conc. foundation, 1 story, 64.9x31 ft., asbestos shingle roof; plans by F. S. Jackson; Lieut. C. Renshaw, Engr., both 2335 Munitions Bldg. 4-2

Va., Fortress Monroe—Constructing Quartermaster, Fort Monroe, let contract to L. R. Broyhill, 110 E. Broadway, Hopewell, for 3 double sets non-commissioned officers' quarters; brick and tile. 4-9

Hospitals, Sanitariums, Etc.

La., New Orleans—Laclede Steel Co., Arcade Bldg., St. Louis, Mo., has contract for 100 tons rein. steel for 8 personnel quarters, U. S. Marine Hospital; R. P. Farnsworth & Co., Maritime Bldg., New Orleans, general contract at \$299,974. 4-2

Miss., Jackson—Mississippi Building Commission, R. L. Brown, Sec., New Capitol Bldg., Jackson, let contract at about \$67,000 to W.

C. Salley, De Siard St., Monroe, La., for recreational bldg., \$5,000,000 Mississippi Insane Hospital N. W. Overstreet, Archt., Standard Life Bldg., Jackson; Vinson B. Smith, Advisory Archt., Gulfport. 4-9

Tenn., Bolivar—Marus Marble & Tile Co., Inc., 245 N. Main St., has contract for marble and terrazzo for Western State Hospital; plastering, Sutton & Whalen; roofing and sheet metal work, Jake Derman, 122 Poplar St.; brick work, Carter B. Lyon, 994 Forrest Ave.; plumbing, Pritchard Bros., 433 Madison St.; heating, Donlon Heating Co.; elevators, Otis Elevator Co., 248 Court St., all Memphis, Tenn.; Wyatt C. Hedrick, Inc., Archt., First Natl. Bank Bldg., Fort Worth, Tex., and Sterick Bldg., Memphis; constr. by state forces. 8-14

Hotels and Apartments

Ala., Montevallo—C. G. Sharp erect, day labor, 2-story, 60x41 ft., brick veneer, 5-apartment building; comp. roof, electrical refrigeration; Denham & Denham, Archts., Comer Bldg., Birmingham.

D. C., Washington—Young & Oppenheimer, 914 F St., N. W., have plans by Geo. T. Santmyers, 925 Fifteenth St., for ten brick and hollow tile, 4-apartment buildings, West Virginia Ave., N. E.; \$130,000; owners build.

D. C., Washington—Columbia Construction Co., 521 Irving St., N. W., having plans prepared by F. G. Wilcox, 4105 Wisconsin Ave., N. W., for 3- or 4-story, brick, rein. conc., hollow tile, stone trim apartment, near Georgia Ave.

Md., Baltimore—Chatham Hotel Co., Inc., 1720 St. Paul St., remodeling Biltmore Hotel, Fayette and Paca Sts.; 40 new bathrooms; \$35,000; Israel Silberstein, Bldr., 2401 Eutaw Pl. 2-5

Md., Easton—W. E. Lednum erect \$50,000, 3-story, 37x108 ft., brick, 15-apartment; L. Worth Jamison, Archt., 12 E. Pleasant St., Baltimore; J. Russell Summers, Bldr., Easton, ready for sub-bids.

Tex., Harlingen—Dr. N. A. Davis started work on \$22,500, 2-story, tile and stucco, Spanish type, 17-apartment; Ramsey Brothers, Contrs.

Va., Roanoke—B. M. Phelps, 416 King George Ave., S. W., erect \$25,000, brick apartment, Franklin Road and 12th Ave.; Eubank & Caldwell, Inc., Archts., Boxley Bldg.; owner builds. 3-26

Miscellaneous

Fla., Pensacola—Brackin Construction Co., Merchants Natl. Bldg., Mobile, Ala., started work on casino on Santa Rosa Island, which is part of development being undertaken by Northwest Florida Bridge Corp.; 2 stories, stormproof, 205x104 ft., behind 12-ft. seawall.

Mo., St. Louis—Following additional sub-contracts awarded on \$5,000,000, 21-story merchandise mart and terminal warehouse under construction (concrete being poured for second floor) for Terminal R. R. Assn., Henry Miller, Pres., Union Station, to be leased to St. Louis Mart, Inc., Lawrence H. Whiting; Marble, Bradbury Marble Co., 3041 Morganfield St.; glass and glazing, store fronts, Condie Bray Glass & Paint Co., 2500 N. Broadway; waterproofing, Contract Waterproofing Co.; struc. steel and misc. iron, Stupp Bros. Bridge & Iron Co., 8326 Ave. G.; terra cotta, Northwestern Terra Cotta Co., 4417 Heath St.; mail chute, Cutlet Mail Chute Co., Rwy. Exch. Bldg.; protective metal, H. H. Robinson Co., 1218 Olive St.; orna. iron and bronze, Usona Manufacturing Co., 3510 Chouteau St.; millwork, Huttig Sash and Door Co., 1200 S. Vandeventer St.; stairs, Missouri Stair Co., 4205 Forest Park Blvd.; double hung windows, Truscon Steel Co., 411 N. Seventh St.; granite, Cold Spring Granite Co., Rwy. Exch. Bldg.; rein. steel, Kalman Steel Co., 319 N. Fourth St., and Laclede Steel Co., Arcade Bldg.; cement, Missouri Portland Cement Co., 1010 Pine St.; face brick, Hydraulic Press Brick Co., Central Natl. Bank Bldg.; Gamble Construction Co., Gen Contr., 620 Chestnut St.; Preston J. Bradshaw, Archt., 18 Locust St.; W. J. Knight & Co., Engrs., Wainwright Bldg. 2-19

N. C., Asheville—Junior League, Inc., Mrs. W. W. Dodge, Vanderbilt Road, Biltmore Forrest, Asheville, let contract to Robinson Bros., Arcade Bldg., for \$18,000, 2-story and basement, 62x24 ft., stone tile and brick veneer home for babies; stone trim, steam heat; dumb waiters, electric refrigerators, hardwood and tile floors, slate roof, gypsum and hollow tile; plans by W. W. Dodge. 4-2

Va., Richmond—Virginia Boat Club, Mayo Island, R. B. Pegram, Pres., rebuild boat-house; \$12,000; brick; E. L. Bass and Bros., Contrs., 708 Bainbridge St.; Carneal, Johnston & Wright, Archts., Builders' Exchange Bldg.; work started. 1-3

Railway Stations, Sheds, Etc.

Tex., Sweetwater—Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Dallas, let contract at \$35,000 to F. A. Fote, Dallas, for improvements to passenger station. 3-27-30

Schools

D. C., Washington—District Commrs., Roland M. Brennan, Ch. Clk., Engr. Div., Dist. Bldg., let contract at \$130,250 to North-Eastern Construction Co., 6 W. Madison St., Baltimore, for additions to Powell Jr. High School, including third story of 8 rooms together with gymnasium and improvements; A. L. Harris, Municipal Archt., Dist. Bldg. 4-9

Fla., St. Petersburg—Pinellas County Bd. of Public Instruction let contract at \$23,317 to John H. Bull Co., West Coast Title Bldg., for Clearview elementary school; Henry L. Taylor, Archt., Times Bldg. 8-28-30

Ga., Woodland—Talbot County Bd. of Education, J. L. Taylor, let contract at \$16,750 to G. F. Wells, Hapeville, for one-story and basement, 155x42 ft., brick veneer and stucco, 8-classroom school; cast stone trim, comp. shingle roof, wood floors, wing 42x43 ft., auditorium to seat 375 people; Daniell & Beutell, Archts., Ga. Savings Bank Bldg., Atlanta. 4-2

Ky., Irvine—City votes April 18 on \$33,000 bonds to complete 12-room high school under construction; Stevens & Muncie, Contrs. 10-16

La., Plaquemine—Iberville Parish School Bd., L. P. Terrebonne, Supt., let contract at \$15,833 to J. H. Fitzgerald, Baton Rouge, for frame school at Bayou Pledgeon, additions to frame school at Crescent, two-room frame school at Grand River and alterations to brick school at Plaquemine; Wm. T. Nolan, Archt., Canal Bank Bldg., New Orleans. 3-19

Md., Baltimore—St. Leo's Roman Catholic Church, Rev. Hector Massina, Pastor, 221 S. Exeter St., let contract to Frank Marine, 2 E. Lexington St., for 2-story, 100x114 ft., brick school and convent, 906-14 Stiles St.; rubberoid and comp. roof, vapor heat; Cyril H. Hebrank, Archt., 3 E. Lexington St. 4-2

Md., Baltimore—Following sub-contracts awarded for addition and remodeling School No. 54, 25th and Charles Sts., for School Bd. administration building (work under way) for which P. C. Street Engineering Co., 404 St. Paul St., has general contract at \$218,000: Metal windows, Campbell Metal Window Corp., Bush and Hamburg Sts.; masonry sand, Caton Sand Co., Washington Blvd. and Spring Road; plumbing, heating and ventilating, P. T. Barry Co., 1134 Linden Ave.; sheet metal and roofing, W. A. Fingler, Inc., 2256 Reisterstown Road; electric installation, Bonnett Electrical Contracting Co., 210 N. Calvert St.; arch brick, Burns & Russell Co., American Bldg.; sand and gravel, Arundel Corp., Pier 2, Pratt St.; lumber, F. Bowle Smith, 710 S. Calvert St.; Lucius R. White, Archt., Court Square Bldg. 11-6

Md., Hagerstown—St. Mary's Catholic Church, Rev. Thomas D. Reinhart, Pastor, let contract to M. B. Keener for 2-story high school and 3-story convent; brick, stone foundation, Carey roof, hollow tile, hardwood floors; C. F. Buhrman, Archt., Waynesboro, Pa. 3-19

Miss., Enid—Enid Consolidated High School, Frank A. Gore, Sec., let contract to H. G. Guest, Marks, for one-story, brick, 6-classroom and auditorium school. 3-19

Mo., Joplin—Ozark Engineering Co., 15th & Indiana Sts., has contract at approx. \$6000 for struc. steel for \$265,000 North Jr. High School, First St. and Gray Ave., on which work has been started; Buchanan & North, Gen. Contrs., Fort Smith, Ark.; Thomas B. Williamson & Co., Archts., Topeka, Kans.; B. F. Cook, Conslt. Engr., 731 Linwood Blvd., Kansas City. 4-9

Miss., Pascagoula—Jackson County Bd. of Supervisors let contract at \$11,847 to L. W. Hancock, 26th Ave., Meridian, for one-story, brick school in Orange Lake Consolidated School Dist.; built-up comp. roof; Shaw & Woleben, Archt., Gulfport. 4-2

N. C., Leaksville—Bd. of Education, C. C. Campbell, Sec., let contract to H. C. Cline, Hickory, for Leaksville High School and North Spray school; to Fowler-Jones Lumber Co., 3043 Patterson Ave., Winston-Salem, for Leaksville grade school; to Worth Bryant, Burlington, Draper graded school; to J. R. Owen & Son, 1006 W. Lee St., Greensboro, Burton Grove school; total cost over \$100,000, all brick and tile, semi-fireproof. 10-16

S. C., Grays—Bd. of Education let contract to T. W. Bozle, Gruleyville, for \$14,000, one-story, brick veneer school; comp. roof, wood floors; J. H. Sams, Archt., Carolina Bank Bldg., Columbia. 2-19

Va., Halifax—Halifax County School Bd. let contract at \$27,000 to T. B. Huskey, Martinsville, for school 9 miles south of Brookneal. 4-9

Stores

Ala., Huntsville—W. L. Humphrey let contract to G. A. Rodgers for \$50,000, 2-story store and office building to replace recently burned structure; Ed. L. Love, Archt. 3-5

D. C., Washington—Wm. and Mrs. Jennie Kaplan, care Julius Wenig, Archt., Edmonds Bldg., re-awarded contract to Marcus Malakates, 312 G St., N. E., for erecting addition and remodeling building, 1834 Seventh St.; brick, waterproofing, stone, iron, electric wiring, plastering, plumbing, metal ceiling, tile. 4-9

Ga., Atlanta—Lunaford & Wilson Co., 595

W. Whitehall St., erect one-story brick store building, 714 Stewart St.; day labor.

Md., Baltimore—E. Schaeffer, 1830 E. Monument St., erect additions to store and office building, same address; 2 stories, 16x30 ft., brick; Arthur F. Nicholson, Bldr., 3334 Woodland Ave.

Theatres

Md., Baltimore—The Sound Amusement Corp., care Wilson P. Smith, Archt., American Bldg., ready for sub-bids for \$20,000 alterations to one-story, fireproof, brick theatre, 614-18 N. Gilmore St.; owner builds.

Okla., McAlester—Wallace Wilkinson let contract to Cowen Construction Co., Shawnee, for \$150,000, 3-story and basement, 50x120 ft., rein. conc., brick and stone theater to be leased to R. and R. Theater Enterprises, 314 Harwood St., Dallas, Tex., S. L. Stokes, Local Mgr.; seat 800 people; plumb-

ing, Walls Plumbing Co.; electric wiring, City Electric Shop, both McAlester. 2-5

Tenn., Old Hickory—E. I. du Pont de Nemours & Co., 194 Hermitage Ave., Nashville, erect \$115,000, stone, Colonial type motion picture theater on Donelson St.; seat 900 people; day labor.

Tex., Hallettsville—Hallettsville Theatre, Inc., care P. M. Brown, Brown Shoe Store, let contract to F. O. Crawford, Yoakum, for one story and balcony, 110x41 ft. tile, stucco and brick theater; conc. floor, cast stone; J. W. Clawson, Archt., El Campo. 4-2

Va., Roanoke—Theatre Holding Corp., care Meyer & Engel, D. S. Meyer, 1909 First Ave., Birmingham, Ala., let contract to D. J. Phipps, 212 Main St., Wasena, Roanoke, for \$500,000 theater to be leased to Paramount-Publix Theatres Corp., Paramount Bldg., New York; C. W. & Geo. L. Rapp, Archts.-Engrs., Paramount Bldg., New York; Eubank & Caldwell, Resident Archt., Boxley Bldg. 4-2

THE CLASSIFICATIONS IN THIS SECTION ARE:

WANT SECTION

Machinery and Supplies

Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.

Building Materials and Equipment

This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.

Bids Asked

Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.

Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.

Machinery and Supplies

Canning Plant Equipment.—D. J. Tanner, Alexandria, La.—Wants data and prices from manufacturers of canning plant equipment.

Concrete Mixer.—E. P. Lindsay, Gen. Contr., 1331 High St., Portsmouth, Va.—Wants and data on 14-S concrete mixer, used, good condition, any make.

Diving Helmets.—Tarpon Springs Sponge Exchange, Ed. O'Cramer, Sec., Tarpon Springs, Fla.—Wants prices and data from manufacturers of deep sea diving helmets, old style or standard equipment.

Engines (Natural Gas).—W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants to represent manufacturers of natural gas engines.

Fire Pumps.—Power Equipment Co., P. O. Box 1326, Greensboro, N. C.—Wants prices and data on used fire pumps, as per Underwriters' approval, 300 to 500 gal. per min., for electric motor drive, either with or without motor, good condition.

Hoisting Engine.—B. V. Hedrick Gravel & Sand Co., Lilesville, N. C.—Wants prices and data on double cylinder 3-drum hoisting engine, with or without swinging shaft, for operating derrick for clamshell, 50 to 75 h. p., without boiler.

Lathe.—Tryon Motor Co., Tyron, N. C.—Wants prices and data on late model lathe, direct electric motor; state specifications.

Power Shovel.—R. E. Boggs, Comer Bldg., Birmingham, Ala.—Wants prices and data on 2-yd. capacity electric driven shovel, mounted on crawler type tread; motors to be for 25 cycle, 3 phase, 550 volts electric current.

Spinning Lathe.—MacDonald Steamotor Co., T. J. MacDonald, Gen. Mgr., P. O. Box 1335, Knoxville, Tenn.—Wants good used 22x44-in. or 27x60-in. spinning lathe with all equipment and accessories.

Turbine Pumping Machinery.—Petersburg Machinery Pump & Well Co., 40 Bollingbroke St., Petersburg, Va.—Wants to represent manufacturers of turbine pumping machinery in Eastern Virginia and Carolina.

Directional Signal Corp., C. F. Schultz, Mgr., Waynesboro, Va., wants prices on following:

- (1) Auto Bulb Sockets
- (2) Ball Bearings
- (3) Cartons (Packing and Shipping)
- (4) Chromium Plating
- (5) Conveyor Belt (Assembly)
- (6) Insulating Parts (Bakelite)—for patented stop light switches
- (7) Insulators (Rubber) — for fitting between light brackets and fenders on which bracket will be mounted.
- (8) Lamps or Bulbs (Automobile)
- (9) Lenses—red, green and crystal convex corrugated (Bee Hive Type) for stop lights

(10) Milled Special Parts

(11) Punch Presses

(12) Screws

(13) Sheet Steel or Sheet Iron

(14) Sheeting (Transparent) — similar to Dupont Viscoloid

(15) Spring (Coil)

(16) Special Tubing Wire—small

(17) Tapping Machines

D. L. McDonald, 732 Amalillo St., Amarillo, Tex., has contract for water works improvements and wants following:

- (1) Turbines—5, deep well
- (2) Motors—5, vertical hollow shaft.

Petersburg Machinery Pump & Well Co., 40 Bollingbroke St., Petersburg, Va.—Wants prices and data on following:

- (1) Arc Welding Machines—50 to 100 watt capacity
- (2) Water Wheels
- (3) Well Drilling Machinery—for water well, used.

W. M. Smith & Co. (Mchy. Dealer), Box 1709, Birmingham, Ala.—Wants prices and data on following:

- (1) Drill—9 spindle or more, gang or multiple
- (2) Moulder—No. 404 Fay and Egan.

Directional Signal Corp., C. F. Schultz, Mgr., Waynesboro, Va.—Wants data and prices from die manufacturers.

Miscellaneous

Gas Plant Franchise.—City of New Smyrna, Fla. J. C. Ferris, City Mgr., considering construction of gas plant and invites proposals from outside utilities in view of considering granting gas franchise.

Jars (Glass).—Clay County Crescent, Green Cove Springs, Fla.—Wants prices and data on 8-oz. glass jars with screw tops, such as those used for mayonnaise.

Petersburg Machinery Pump & Well Co., 40 Bollingbroke St., Petersburg, Va.—Wants prices and data on following:

- (1) Piling (Sheet)—10 ft. long, 1700 sq. ft.
- (2) Pipe—used.

Electric Sign Parts.—Irving Lichtenstein, 3335 Park Heights Ave., Baltimore, Md.—Wants prices and data on following in quantities for flashing electric signs, 9x20 in.:

- (1) Extension Cord—10 ft. long, with male and female plug and special flashing or thermostat socket
- (2) Glass—9x20, to fit shadow box mentioned below, painted with transparent paint, with different slogans, giving Neon-like effect when light passes through
- (3) Shadow Boxes—9x20 in., metal, about 4 inches deep.

Building Material and Equipment

Pla-Mor, 32nd and Main St., Kansas City, Mo., wants prices and data on materials and equipment for:

Swimming Pool.

Bids Asked

Aluminumware.—Supt., St. Elizabeth's Hospital, Washington, D. C.—Bids Apr. 20 for 48 roasting pans, 200 food containers and 6 steamer baskets, 144 trays and 24 ladles, all aluminum.

Ammonia.—U. S. Engr. Office, Mobile, Ala.—Bids Apr. 20 for ammonia as required during fiscal year 1932.

Bridge.—Virginia. See Construction News—Roads, Streets and Paving.

Bridges.—Miami Beach, Fla.—See Construction News—Bridges, Culverts and Viaducts.

Band Saw.—See Miscellaneous Machinery, Tools, etc.

Boring, Drilling and Milling Machine.—See Miscellaneous Machinery, Tools, etc.

Coal.—Office of Chief, Property and Contract Subdivision, Supply Div., U. S. Veterans' Bureau, Washington, D. C.—Bids Apr. 30 for coal for various deliveries during fiscal year 1932.

Chassis.—District Commrs., Washington, D. C.—Bids Apr. 28 for automobile truck chassis, 3000 lb. payload capacity.

Dike.—U. S. Engr. Office, Galveston, Tex.—Bids May 6 for rubble mound dike on existing Texas City dike, Texas City, Tex. See Construction News—Miscellaneous Construction.

Drilling Machine.—See Miscellaneous Machinery, Tools, etc.

Drill Press.—See Miscellaneous Machinery, etc.

Eave Trough, etc.—U. S. Engr. Office, Huntington, W. Va.—Bids Apr. 21 for eave trough, etc., building material, Kanawha River.

Eductor.—District Commrs., Washington, D. C.—Bids Apr. 24 for auto eductor.

Electrical Test Bench.—See Miscellaneous Machinery, Tools, etc.

Enamel.—District Commrs., Washington, D. C.—Bids Apr. 27 for yellow background enamel and black numeral coating.

Floating Derricks.—Chief, Bureau of Yards and Docks, Navy Dept., Washington, D. C.—Bids Apr. 29 for two 25-ton floating steel derricks of stiff-leg type with bull wheel having steel pontoons, steam engines and oil burning boilers, one to Mare Island, other San Diego.

Forging Hammer.—See Miscellaneous Machinery, Tools, etc.

Forks, etc.—Office, Ch. of Engineers, Washington, D. C.—Bids Apr. 23 for 240 D. handle stone forks, 36 road plows and 120 drag scrapers.

Heating System.—Constructing Quartermaster, Randolph Field, Tex.—Bids May 1 for installing heating system in engineering shops.

U. S. de Lavaud Pipe

During the past eight years, more than 10,000 miles of deLavaud Pipe have been specified by engineers and contractors in cities throughout the country.

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Heating Boilers.—Commanding Officer, Washington Quartermaster Depot, 20th and C Sts., N. W., Washington, D. C.—Bids Apr. 28 for heating boilers, Langley Field, Hampton, Va.

Kitchen Equipment, etc.—Commr. of Indian Affairs, 806 Spruce St., St. Louis, Mo.—Bids Apr. 30 for kitchen equipment, etc., during fiscal year 1932.

Laboratory Testing Equipment.—U. S. Engr. Office, Huntington, W. Va.—Bids Apr. 20 for laboratory testing equipment, London Lock.

Lampost Parts.—District Commrs., Washington, D. C.—Bids Apr. 29 for c. i. lamp-post parts.

Lathe (Engine).—See Miscellaneous Machinery, etc.

Laundry Extractor.—City, Bd. of Awards, Office of City Register, City Hall, Baltimore, Md.—Bids Apr. 22 for 48-in. open top laundry extractor for Baltimore City Hospitals, 4940 Eastern Ave.

Laundry Supplies.—Quartermaster Supply Officer, Fort Sam Houston, San Antonio, Tex.—Bids Apr. 20 for 6000 lb. acetic acid, 70,000 shirt boards, 20 boxes belt clipper hooks, 1800 yd. surface covering cloth, 500 yd. knitted cotton padding, 1500 marking pads, 60,000 lb. soap chips, 60,000 lb. washing soda, 5000 lb. laundry starch and 50,000 marking tags.

Levels, etc.—Office, Ch. of Engineers, U. S. Army, Munitions Bldg., Washington, D. C.—Bids May 27 for 25 engineer dumpy levels and 65 engineer transits.

Lockers.—District Commrs., Washington, D. C.—Bids Apr. 24 for box lockers.

Machine Bolts, Nuts, Nails, etc.—U. S. Engr. Office, Huntington, W. Va.—Bids Apr. 21 for machine bolts, nails, etc., for Kan-awha River.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Apr. 20 for following, Sch. 2647:

Steel, staybolt iron, phosphor-bronze sheets, wiping solder, steel tubing, copper tubing, brass screening, phosphor-bronze wire, seizing wire, etc.

Miscellaneous Machinery, Tools, etc.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Apr. 21 for air driven forging hammer, electrical test bench, motor driven riveting machine, complete with motor and starting equipment; combination woodworking machine, motor driven band saw; bids Apr. 28 for motor driven boring, drilling and milling machine, and motor driven drilling machine.

Miscellaneous.—Panama Canal, Office of Pur. Officer, Washington, D. C.—Bids Apr. 24 for following, Sch. 2646:

Insulated cable, wire rope, cast vanadium-steel yokes, cast steel trolley wheels, forged steel axles, hangers and pawls, folding machine, rulling machine, warehouse trucks, rectifier, resistance units, flashlights, asbestos board, c. i. pipe fittings, etc.

Miscellaneous.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Apr. 21 for water-gauge glasses, vacuum tubes, gasoline tanks and pumps, fueling pits to Navy Yard, Washington, D. C.

Miscellaneous.—Panama Canal, Office of Gen. Pur. Officer, Washington, D. C.—Bids Apr. 28 for following, Sch. 2648:

Wire rope, cable, wire, electric cord, manila rope, dipper lips, cable clips, poultry netting, iron or steel sheets, copper, brass, bronze, boiler-zinc copper and brass pipe, etc.

Miscellaneous Machinery, etc.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Apr. 21 for motor driven cut-off saw and motor driven surface planer; bids Apr. 28 for refrigerating plants and spare parts, electrically operated cut-off saw, motor driven milling machine, combination woodworking machine; bids May 5 for motor driven sliding head drill press and motor driven, selective head gap engine lathe.

Oxygen Gas.—U. S. Engr. Office, Mobile, Ala.—Bids Apr. 20 for oxygen gas as required during fiscal year 1932.

Paints, glass, oils, etc.—Commr. of Indian Affairs, 806 Spruce St., St. Louis, Mo.—Bids Apr. 25 for paints, glass, oils, etc., during fiscal year 1932.

Paint.—Quartermaster, Ft. Bliss, Tex.—Bids Apr. 23 for 950 gal. paint, 500 gal. mineral spirits, 300 gal. linseed oil, 20 boxes glass, 50 lb. flake glue and 15 gal. vermilion paint.

Pipe.—U. S. Engr. Office, Huntington, W. Va.—Bids Apr. 20 for pipe for stock.

Ranges.—Quartermaster Supply Officer, Fort Sam Houston, San Antonio, Tex.—Bids Apr. 20 for 10 gas ranges.

Refrigerating Plants, etc.—See Miscellaneous Machinery, etc.

Riveting Machine.—See Miscellaneous Machinery, Tools, etc.

Road.—Fort Myer, Va. See Construction News—Roads, Streets and Paving.

Roads.—State of Maryland—Bids for 4 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Virginia—Bids for 3 roads. See Construction News—Roads, Streets and Paving.

Roads.—State of Mississippi—Bids for 4 roads. See Construction News—Roads, Streets and Paving.

Saw (Cut-off).—See Miscellaneous Machinery, etc.

Sewer Construction.—Office of Constructing Q. M., Fort Monroe, Va.—Bids May 7 for construction of 12-in. sewer; information on application.

Sidewalks.—Miami Beach, Fla.—See Construction News—Roads, Streets and Paving.

Sound System.—District Commrs., Washington, D. C.—Bids Apr. 23 for sound amplifying system to be installed in Central High School, consisting of 3 microphones, amplifiers, speakers, etc.

Streets.—Richmond, Va.—See Construction News—Roads, Streets and Paving.

Streets.—Washington, D. C. See Construction News—Roads, Streets and Paving.

Streets.—Washington, D. C. See Construction News—Roads, Streets and Paving.

Surface Planer.—See Miscellaneous Machinery, etc.

Tractors.—W. R. Brewington, County Aud., Hill County, Hillsboro, Tex.—Apr. 27 for one or more 30 to 60-h.p. crawler type tractors.

Truck Chassis.—Pur. and Contg. Officer, Holabird Quartermaster Depot, Baltimore, Md.—Bids Apr. 27 for 69 gasoline motor propelled, 4000 lb. capacity truck chassis.

Truck Parts.—Pur. and Contg. Officer, Holabird Quartermaster Depot, Baltimore, Md.—Bids Apr. 22 for axles, drop gear cases, power plant assemblies, tires, tubes, mirrors, windshield wipers, switches, Alemite fittings, socket wrenches, etc.

Woodworking Machine.—See Miscellaneous Machinery, Tools, etc.

Trade Literature

Fifty Years' Service.—The Pittsburgh Testing Laboratory, Pittsburgh, Pa., is distributing a brochure commemorating its fiftieth anniversary and describing in detail the facilities and service it offers to industry. This service comes within four basic divisions: Chemical, physical, inspection and research, each division being equipped with trained personnel and modern apparatus. Southern branch offices are maintained in Atlanta, Baltimore, Birmingham, Dallas, Houston, New Orleans, St. Louis and Tampa.

Carbon Brush Manual.—The National Carbon Company, Inc., Cleveland, Ohio, has issued a new carbon brush manual designed to simplify the selection and specification of carbon and metal graphite brushes. The new shunt nomenclature of the National Electrical Manufacturers Association has been adopted and essential details for a complete brush specification are listed and discussed.

Concrete Roof Slabs.—The Federal-American Cement Tile Company, Chicago, is distributing catalog 102 devoted to Feather-weight concrete insulating roof slab, the development of which is described as "a new chapter in the history of concrete." These slabs are manufactured, laid and guaranteed by the company.

Trinity Industrial District.—The Industrial Properties Corporation, Dallas, Tex., is distributing a booklet devoted to the Trinity Industrial District, a feature of the publication being an engineering drawing prepared from a comprehensive aerial survey together with maps and structural designs. The panorama visualizes the district with respect to the metropolitan area of Dallas, the railways, major traffic ways, public utility facilities and projected water transportation through canalization of the Trinity River. Descriptive data outlines Dallas plans for the future and deals comprehensively with the \$21,000,000 Trinity River reclamation project now under way. The Industrial Properties Corporation group owns and controls 75 per cent of the reclaimed property within the limits of the district.

Boiler Efficiency.—The Whiting Corporation, Harvey, Ill., has issued a bulletin covering tests conducted at the recent Midwest Power Show in Chicago, which are said to have demonstrated the economy and practicability of Western coals for low pressure heating plants. The tests were made by the Commercial Testing and Engineering Co., Chicago, on a model boiler installation which was kept in actual operation, under test conditions, for five days; during this period the steam generated was used to heat the exposition buildings. Whiting stokers were used to fire the boilers.

Southern Forest Experiment Station.—The Southern Forest Experiment Station of the Forest Service, United States Department of Agriculture, is distributing from the offices of the station at New Orleans, La., its tenth annual report and program. The New Orleans station was established in 1921 and is one of eleven regional forest experiment stations in the United States. It recently began studies in the Southern bottomland hardwood region and these studies, as well as progress of investigations relating to Southern pines, are covered in the report.

Road Grader.—The Austin-Western Road Machinery Co., Chicago, has issued bulletin W-31-E, illustrating and describing Western No. 37 road grader, a maintenance machine carrying a 12-foot blade, to be pulled behind any small tractor and handled by the tractor driver. The grader has a wheel base of 12 feet, overall length of 17 feet, overall width of 6 feet 10½ inches, and weighs 3450 pounds. It is manufactured by the Western Wheeled Scraper Company, Aurora, Ill., and is sold in the United States by the Austin-Western Road Machinery Co.

Glass Factory Yearbook-Directory.—The 1931 edition of the Glass Factory Year Book and Directory has been issued by the American Glass Review, Pittsburgh, Pa., publishers. The publication contains data on manufacturers of glass products in the United States and Canada, classification of glass products and indices of raw materials and equipment, finished products and manufacturers.

Agricultural Bulletin.—The Agricultural Bulletin, official publication of the Atlanta & West Point Railroad Company, the Western Railway of Alabama and the Georgia Railroad, has been issued for the second quarter of the current year. The edition contains a number of articles on various phases of agricultural activities and is attractively illustrated.

(Continued on page 64)

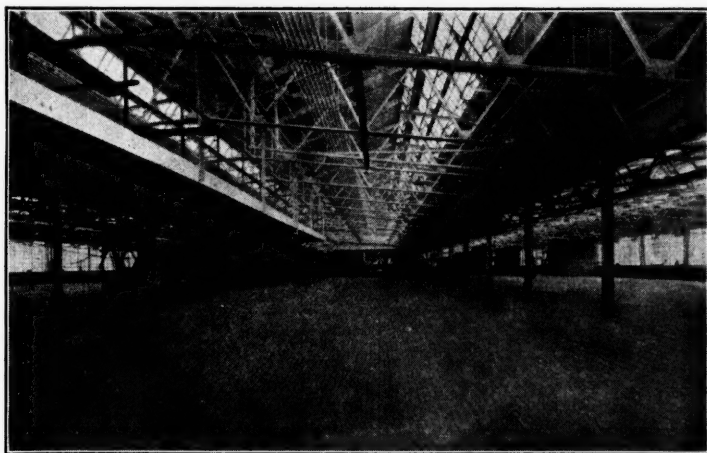
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factory building. All
wood sleepers and
maple flooring were
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LIGNOPHOL
Area about 175,000
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Preserve new floors with Lignophol and you will keep them new. Protect old floors from further damage *now*. No more splintering, warping, shrinking, dry or wet rot. Let us show you floors in your community which were treated with Lignophol years ago and are still smooth and sound.

Lignophol goes on like water and dries over night. Easily applied with a long-handled three-knot brush by your own workmen or a Sonneborn service crew. Guaranteed to make good, and saves its small cost many times. Write today for complete data and samples.

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A chemical liquid hardener
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For waterproofing exterior of
exposed walls.

CEMCOAT FLOOR ENAMEL

Produces durable, dustless,
sanitary, high-gloss finish.
Various colors.

(Continued from page 62)

The Story of Steel.—A series of educational motion pictures released for free circulation by the United States Bureau of Mines, Washington, depicts "The Story of Steel" from the mining of iron ore to the manufacture of finished steel products. Copies of the films may be obtained for exhibition purposes by schools, churches, clubs, civic and business organizations, miners' local unions and others by applying to the Pittsburgh (Pa.) Experiment Station of the United States Bureau of Mines.

Broken Range Ashlar.—A folio on broken range ashlar has been issued by the North Carolina Granite Corporation, Mount Airy, presenting information on this building material. Mount Airy 1 & 2 Man Rubble is described as a practical granite material, broken into rectangular shapes that may be fitted into the wall economically. The folio contains descriptive data, photographs, line drawings and illustrated articles.

Heavy-Duty Crawler Tractor.—An illustrated circular issued by the Trackson Co., Milwaukee, Wis., describes the adaptability of the new Model GH Trackson McCormick-Deering. It is a heavy-duty crawler tractor, designed especially for the mounting of cranes, hoists, pipe booms, shovels, etc., and is suited to various kinds of material handling operations, drawbar work and other jobs in and around industrial plants.

Machinery.—Bulletin 428 for the spring of 1931, devoted to used and surplus machinery and equipment, has been issued by Zelnicker in St. Louis. The publication illustrates and describes such types of machinery as steel underframe flat cars, steel storage tanks, steel car tanks, pressure tanks, gasoline engines, Fairbanks-Morse Diesel generator, Fulton Diesel locomotive crane, steel bars, reversible steam winches, steel end and intermediate ties, etc.

Portland Cement Making.—A new one-reel educational motion picture, "From Mountain to Cement Sack," prepared by the Bureau of Mines, Washington, in co-operation with an industrial firm, visualizes the making of Portland cement. Copies of the film may be obtained for exhibition purposes by schools, clubs, churches, civic and business organizations and others by applying to the Pittsburgh Experiment Station of the United States Bureau of Mines, Pittsburgh, Pa.

Louisiana Conservation.—To give the public an insight into the functioning of the Louisiana Department of Conservation, New Orleans, the Department has issued a special 1930 Annual Review. In the past, an official report of the Legislature every two years has recorded the work of the Department, but it is said that 1930 was so signalized by accomplishment that the present number was prepared. The publication is generously illustrated.

Aluminum Company of America

Net income of the Aluminum Company of America, Pittsburgh, Pa., for 1930, amounted to \$10,868,685, as compared with \$24,128,509 for 1929, and after deducting the amount required for preferred stock dividends there remained applicable to the common stock \$1.38 per share, as compared with \$10.37 per share for 1929. In view of prevailing business conditions, this result is said to be satisfactory, particularly as the tonnage of materials sold in 1930 amounted approximately to only two-thirds of the tonnage sold in 1929 and the price of aluminum dropped one cent per pound during the year.

The hydro-electric development at Calderwood, Tenn., on the Little Tennessee River was completed and put in service April 19, 1930, and a number of other additions and betterments were completed in the year. Important projects included the initial development of the Alcoa Power Company, Ltd., on the Saguenay River in Canada, and a heavy duty sheet and plate mill at Alcoa, Tenn., which has been put in operation since the close of the year. The growth of the aluminum industry is felt to be assured, because of the expansion of established fields for its use and the opening up of new sources of demand.

Ingersoll-Rand Equipment on Hoover Dam

Orders have been placed with the Ingersoll-Rand Company, New York, by the Six Companies, Inc., contractors, for all air compressor and rock drilling equipment required for construction of the Hoover dam. The stationary air plant will consist of a battery of large class "PRE" type direct-connected, electric-driven compressors having a combined output of 25,000 cubic feet per minute. About 5,800,000 cubic yards of rock will be excavated for the project and preliminary estimates indicate that 15,000 miles of drill holes will be required on this phase of the work. Smaller Ingersoll-Rand compressors of the portable type will operate rock drills to scale down the canyon walls on either side of the damsite to guard against rock slides.

Southern Railway Appointments

Vice-President E. R. Oliver of the Southern Railway System, Washington, D. C., announces that W. H. Tayloe, after 43 years of continuous service with the passenger traffic department, has asked to be relieved of the duties of that office and has been appointed general agent of the passenger department with an office at Richmond, Va., effective April 15. Frank L. Jenkins, now assistant general passenger agent at Washington, has been appointed passenger traffic manager with an office at Washington.

Moves New York Office

On May 1 the Newport News Shipbuilding and Dry Dock Company, Newport News, Va., will move its New York Office from 233 Broadway to 90 Broad street. The company is at present handling a number of important ship-building contracts, some of them involving large passenger ships for the Dollar Steamship Lines, Inc., New York.

New Orleans Sales Office

Because of the sale of their New Orleans warehouse and fabricating plant, the Lukens Steel Company, Coatesville, Pa., manufacturers of steel plates, sheets and fencing, announce the opening of a sales office in New Orleans for handling direct mill business. The new office is 304 Pan American Building, 610 Poydras street.

(Continued on page 66)

INDUSTRIAL NEWS

Development Engineering Department

A development engineering department has been established by the Steel Founders' Society of America, Inc., New York, at 932 Graybar Building, with a competent engineer and metallurgist in charge. The principal function of this division will be to develop new uses or new applications for cast steel, and to serve all industry in a consulting capacity with reference to metal construction problems where cast steel may be used.

Removes Departments to New York

Revere Copper and Brass Incorporated announces the removal of its executive, general sales and advertising departments from Rome, N. Y., to 230 Park avenue, New York City. The treasurer's office and general accounting department will remain at Rome. Officers of the company now making New York City their headquarters include C. Donald Dallas, president; George F. Stanton, vice-president and general sales manager, and J. A. Doucett, vice-president and assistant general sales manager.

Sale of Engine and Equipment

By virtue of a decree in a chancery cause, D. H. Sencindiver, trustee, Winchester, Va., will sell at public auction on May 1, on the site of the former plant of the Eastern Silica and Chemical Corporation, on the Winchester and Wardensville Railroad, about 3 miles south of Gore, Va., a second hand model 32, 240-horsepower Fairbanks-Morse full Diesel engine, direct connected to a 200 K.V.A., 60 cycle, 480-volt A.C. generator, and 10 K. W. 125-volt exciter, together with switchboard, rheostat and air starting equipment.

Order for Oil-Electric Locomotives

The Ingersoll-Rand Company, New York, has booked an order from the Bush Terminal Company for seven 55-ton oil-electric locomotives for switching service at the company's Brooklyn terminal. Each locomotive is powered by an Ingersoll-Rand 300-horsepower railroad type Diesel engine, while the General Electric Company, Schenectady, N. Y., will supply all electrical equipment. In the past five years, it is announced, nearly 100 of these locomotives have been placed in service in the United States by railroads, steel mills, lumber and mining companies and other industrial firms.

Equipped With Moore Dry Kiln

A new mill recently completed at Fountain, Ala., by the Schuster Springs Lumber Company, is equipped with a high powered Moore cross-circulation kiln with reversible fan system, built by the Moore Dry Kiln Company, Jacksonville, Fla. It is a double track kiln, 104 feet long and 21 feet wide, affording large holding and drying capacity. Drying conditions within the kiln are electrically controlled. The Schuster Springs Lumber Company is connected with the W. T. Smith Lumber Company, Chapman, Ala.

Buys Industrial-Brownhoist Equipment

Incident to the consolidation of the Cleveland, Ohio, and Bay City, Mich., plants of the Industrial Brownhoist Corporation, Cleveland, involving the removal of equipment from Cleveland to Bay City, Philip T. King, 50 Church street, New York, purchased the reserve stock of Industrial Brownhoist crawler cranes and shovels.

AMERICAN BRIDGE COMPANY

Subsidiary of United States Steel Corporation

Steel Structures Bridges and Buildings

GENERAL OFFICES
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CONTRACTING OFFICES
IN PRINCIPAL CITIES

Coal Steel

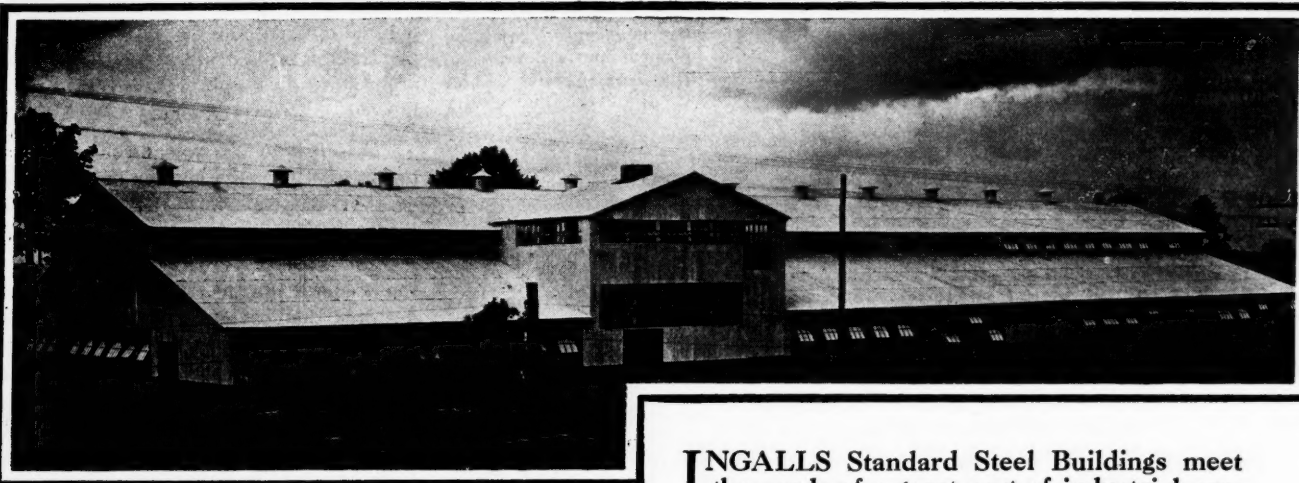
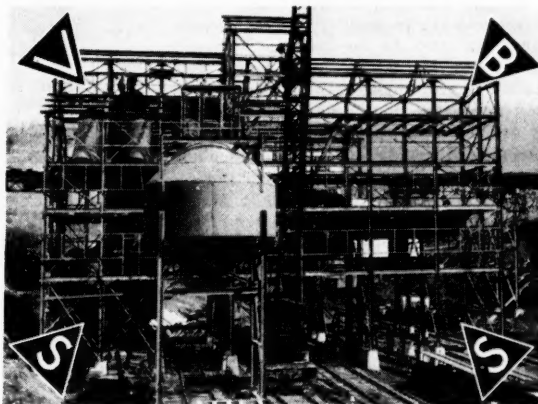
Cold facts and cold reason proclaim cold steel for coal production. This is rather a cool statement. But we can serve you on a warm, friendly basis in steel construction of all kinds and sizes.

Belowis Coal Tipple built for United Pocohontas Coal Co., at Crumpler, W. Va.

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Roanoke Birmingham Memphis Atlanta New Orleans
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STEEL STRUCTURES



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Standard Stove & Range Company, Rome, Ga.*

The Ingalls Iron Works Company

Main Office and Plants: Birmingham, Ala.
Eastern Plant: Verona, Pa. (in Pittsburgh District)
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INGALLS Standard Steel Buildings meet the needs of a great part of industrial construction such as warehouses, machine shops, foundries, wharf sheds, sugar mills and general industrial plants.

They are economical, firesafe, weather-tight and permanent. Manufactured in 8 different types, each with a wide variation in size and design, ranging from a small tool house to the largest industrial building. When desired, our contracts call for complete job at one definite price.

WRITE FOR CATALOG NUMBER 45

STANDARD STEEL BUILDINGS

(Continued from page 64)

Producing Aircraft Engines

The Light Manufacturing & Foundry Company, H. J. Bahr, president, Pottstown, Pa., engaged in the production of power plants for automotive, marine and aeronautical use, as well as for industrial pumping, is fulfilling a contract for 50-horsepower, 3-cylinder radial engines. Last year the firm built 125 engines in the 140-horsepower class for the Jacobs Aircraft Corporation. The aeronautical division builds a line of light aircraft engines, ranging in horsepower from 125 down to 20. The "Tiger" engine, as the line is known, has been standardized and the plant completely equipped with tools, jigs and fixtures. Parts are interchangeable, and "by setting a low price on service parts" the company proposes to further the cause of low maintenance. The company is furnishing all licensed mechanics and pilots with instruction books, service manuals, sectional and other drawings necessary to enable them to become familiar with and to service the "Tiger" engine. In the near future parts depots will be established in key locations throughout the United States, these to be in charge of factory trained men who will work out from the station and conduct classes and schools for pilots and mechanics for the care and repair of "Tiger" engines. The Light Manufacturing & Foundry Company was one of the country's pioneers in production of aluminum castings, and has had wide experience in production of automobile and truck parts, engines, etc.

Busch-Sulzer Plant Expanding

The Busch-Sulzer Bros. Diesel Engine Company, St. Louis, Mo., plans to construct a new erecting shop for testing Diesel engines of large sizes up to 25,000 horsepower per engine. The company will also build an extension to its iron foundry and install a 75-ton craneway. W. J. Knight & Company, St. Louis, will prepare plans and specifications and supervise construction. Recent orders for 7 Busch-Sulzer Diesels, all larger than 1000 horsepower, indicate a trend toward larger sizes in the use of these engines.

Contracts for 60 Mill Cottages

Austell, Ga.—The Clark Thread Co., Newark, N. J., awarded contract to the Fiske-Carter Construction Co., Greenville, S. C., to erect 60 operatives' cottages, of single and double types. They will be of frame construction on brick foundations.

House Insulating Information

Washington, D. C.—Secretary of Commerce Robert P. Lamont, who is chairman of the National Committee on Wood Utilization, announces the appointment of a sub-committee to prepare a booklet, designed to acquaint builders, as well as present and prospective home owners, with facts regarding the insulation of a house. A primary purpose of the booklet, a co-operative project between government and industry, is to inform the non-technical consumer of advantages

Assistant Chief Engineer

The Louisville and Nashville Railroad Company, W. H. Courtenay, chief engineer, Louisville, Ky., announces the appointment of G. R. Smiley as assistant chief engineer with offices at Louisville. W. E. Smith is the general manager.

Iron and Steel Plant Offered

Moving to larger quarters, the Quaker City Iron Works at Richmond and Tioga streets, Philadelphia, Pa., will sell its present plant consisting of buildings and equipment for the manufacture of iron or steel products, or for structural shop, foundry machine shop or warehouse purposes. The buildings include a main shop, power house, office building, garage and three crane runways, the main structure housing a railroad siding of 3-car capacity.

Advertising Firms Merge

A merger of the Bennett-Williams Company, Inc., High Point, N. C., and Praigg Advertising, Jacksonville, Fla., results in the organization of the Southeastern Advertising Agency, Inc., with the following officers: Noble T. Praigg, president; J. T. Williams, vice-president, and H. C. Bennett, secretary and treasurer. The new company will combine the handling of about 40 accounts, and under the merger effected will provide service of a broader and more varied scope.

Airplane for Better Service

For promoting closer contact with its customers and the trade generally, the Master Electric Company, Dayton, Ohio, manufacturers of Master Guaranteed Motors and other electrical devices, has purchased a new four-passenger cabin monoplane. According to E. P. Larsh, president and general manager, the plane will be used to better the service of the organization in expediting delivery of rush orders, to assist Master executives in hurried business calls to all parts of the country and to convey customers to the factory.

and economies of house insulation. LeRoy E. Kern, American Institute of Architects, is chairman of the sub-committee.

Industrial Safety

Conditions during the eight-hour work day of an industrial employe are less hazardous and his physical well being and general safety are better cared for than in the 16 hours remaining, according to a statement based on the fact that employes at the Western Electric Point Breeze Works in Baltimore last month crossed the million-and-a-quarter man-hour mark without a lost time accident. During the period under consideration, January, February and the first three weeks of March, members of the plant's personnel suffered 15 lost time accidents while outside the plant after working hours, injuries which totaled more than 70 lost days.

Oklahoma Looks Ahead

"Forward Oklahoma!" was the keynote of the Eighth Annual Convention of the Chamber of Commerce of the State of Oklahoma, held at Enid last week. Speakers were optimistic as to the orderly advancement of Oklahoma's resources, measured by the progress made during the past year, in the face of the worldwide business depression. W. B. Estes, managing director of the organization, asserted that it was closing one of the most successful years in its history and he looked forward to greater achievements in the future.

Promotion of paved highways connecting Oklahoma cities and improvement of agriculture, farming, marketing systems and the state's oil industry were special subjects discussed. Major Gordon W. Lillie, Pawnee, Okla., spoke in behalf of still better highways for the state, while H. H. McClintock, of Bartlesville, president of the Highway 60 Association, outlined developments concerning that route across the United States and told of the benefits resulting to Oklahoma.

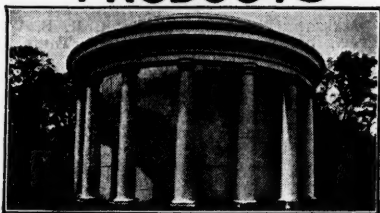
Unification of bus, railroad and airplane transportation systems was predicted by Paul Walker, chairman of the Oklahoma Corporation Commission. He pointed out that the Commission is seeking freight rates equitable with those in other states in its program toward bringing benefits to Oklahoma.

The oil industry was discussed in a paper by E. B. Reeser, of Tulsa, president of the American Petroleum Institute.

Charles H. Alvord, representative of the Federal Farm Board, Washington, declared that present agricultural conditions have been "brewing" for 20 years, during which time farmers have been sapping the soil of its fertility. He stressed the necessity of reducing acreage on those crops which may have a large surplus, asserting that "as long as a surplus exists of any agricultural commodity, the inevitable end is low prices. Agriculture must follow industry and cut acreage to equalize production and demand."

Replacing directors whose terms expired this year, the following new directors were named: P. A. Norris, Ada; H. V. Foster, Bartlesville; L. C. Hutson, Chickasha; W. E. Hocker, Elk City; Giles E. Miller, Guymon; R. C. Jones, Cushing; Robert Stewart, Pawhuska; Dr. W. E. Grisso, Seminole; Peyton Jennings, Shawnee; Dr. H. G. Bennett, Stillwater; Dial Currin, Durant; Wirt Franklin and P. A. Janeway, both of Oklahoma City.

SOUTHLAND PRODUCTS



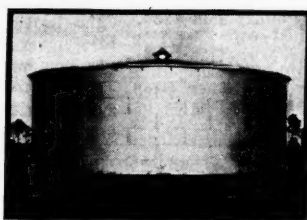
Million gal. Tank at White Sulphur Springs, W. Va.

CHATTANOOGA BOILER & TANK CO.
Chattanooga, Tenn.

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PIPES
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TOWERS
AND
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HORTON Steel Storage Tanks

Provide dependable and economical storage for either liquids or solids by using Horton steel tanks. Flat-bottom, elevated and cylindrical tanks in a number of standard sizes, as well as special steel plate work.



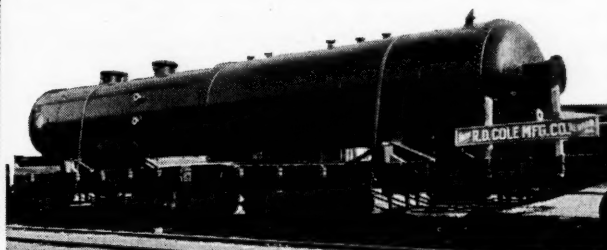
3,250,000-gallon water tank at St. Petersburg, Fla.

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Dallas.....3308 Magnolia Bldg.	San Francisco.....1040 Rialto Bldg.
Houston.....1114 Electric Bldg.	Philadelphia 2619-1616 Walnut St. Bldg.
Tulsa.....2411 Exchange Bank Bldg.	Detroit.....1510 Lafayette Bldg.
New York.....3113 Hudson Terminal	Boston.....1510 Consol. Gas Bldg.
Cleveland.....2216 Midland Bank Bldg.	Seattle.....4328 Smith Tower

B-194

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FINANCIAL NEWS

Bond Issues Proposed

Ala., Bessemer—City, P. M. Mathews, Mayor, denies report City votes Apr. 30 on \$110,000 school building bonds.

Ark., Fort Smith—City voted \$125,000 bonds: \$100,000, fire department equipment; \$25,000, fire station building and repair. 2-12

Ga., Atlanta—Fulton County, Jere Wells, Supt. of Schools, votes May 23 on \$500,000 bonds for county-wide school building program. 4-2

Ga., Dalton—Center Point Consolidated School Dist. of Whitefield County, Alvin White, County School Supt., voted \$25,000 bonds.

Ky., Ludlow—City, Chas. White, City Clk., soon open bids for \$30,000 incinerator bonds. 1-15

La., Abbeville—Town Council, P. U. Broussard, Mayor, opens bids Apr. 28 for \$31,500, \$500 denom., 6% city hall and fire station building bonds.

La., Baton Rouge—State Bd. of Liquidation of State Debt, L. B. Baynard, Jr. Sec., postponed sale of \$2,000,000 Confederate Veterans and widows' pension bonds and of \$502,000 drouth relief bonds; it is planned to issue bonds and offer them for sale at early date. 4-9

La., Bunkie—City, Mayor and Bd. of Aldermen, called election on \$50,000 bonds for paving W. Main St.

La., Houma—Terrebonne Parish voted \$160,000 school building bonds.

La., Ruston—Lincoln Parish School Bd. called election for May 11 on \$40,000 Simsboro School Dist. bonds.

Md., Frederick—Legislature passed bill authorizing Frederick County to issue \$100,000 bonds to pay serial maturities during next 5 years.

Md., Baltimore—Legislature passed bills authorizing City, A. Walter Kraus, City Solicitor, to hold referendum on \$29,500,000 bonds: \$10,000,000, schools; \$7,500,000, water system improvements; \$1,500,000, conduits; \$5,000,000, paving; \$5,000,000, sewers; \$500,000, the erection Peoples and Juvenile Court Bldg. 3-26

Md., Brunswick—City, Harry C. Allgire, Mayor, opens bids Apr. 24 for \$35,000 water improvement bonds.

Md., Frederick—City, Edward J. Smith, City Attorney, opens bids May 6 for \$235,000 bonds: \$200,000, pumping station and filtration plant; \$35,000, airport. 4-9

Miss., Hattiesburg—Eatonville Consolidated School Dist. voted \$25,000 bonds.

Miss., Holly Springs—Marshall County Supvrs. open bids May 4 for \$35,000 road bonds.

N. C., Newberry—Newberry County, John F. Clarkson, County Attorney, opens bids Apr. 23 for \$148,500 bonds to pay all outstanding county notes; remainder of the \$800,000 issue to be sold in September.

N. C., Raleigh—Local Government Comsn., Chas. M. Johnson, Director, opens bids Apr. 21 for \$450,000, not to exceed 6% in multiple of 1/4 of 1%, \$1000 denom. bonds: \$250,000, public municipal auditorium; \$100,000, street improvement; \$100,000, sewer.

N. C., Snow Hill—Green County Local Government Comsn., Chas. M. Johnson, Sec., Raleigh, opens bids Apr. 21 for \$350,000, 5%, \$1000 denom. refunding bonds.

Okla., Oklahoma City—State, Ray O. Weems, State Treas., reported, may vote on \$6,000,000 funding bonds.

Okla., Oklahoma City—Oklahoma County, Mrs. Ida M. Hale, County Supt. of Schools, plans voting on \$50,000 bonds for school at Harrah.

Okla., Wewoka—City votes May 5 on \$45,000 sewage disposal plant bonds. 4-9

Tenn., Blountsville—Sullivan Court approved \$112,000 school bonds; also approved issue to permit citizens to vote on \$100,000 rural road bonds.

Tenn., Erwin—Unicoi County Court passed resolutions to call election on \$55,000 bonds for building rural schools and to pay off county indebtedness. 4-9

Tenn., Knoxville—Knox County Court authorized issuance of \$1,000,000 bonds: \$500,000, new school; \$500,000, new Henley St. bridge. 4-2

Tenn., Rogersville—Hawkins County Court issue \$68,000 road bonds.

Tex., Austin—State Senate voted finally to submit \$212,000,000 state road bond issue to popular vote in November. 4-19

Tex., Beaumont—Jefferson County, reported, considering issuing \$3,000,000 bonds.

Tex., Dallas—City, J. Waddy Tate, Mayor, voted \$300,000 bonds for improving Love Field.

Tex., Los Fresnos—Town voted \$30,000 school building bonds.

Tex., Mercedes—City, E. H. Kasey, Mayor, voted \$614,000 refunding bonds. 3-12

Tex., San Marcos—San Marcos Independent School Dist., Ed. Taylor, Pres., School Bd., voted \$200,000 bonds. 3-19

Va., Salem—Roanoke County, Thurston L. Keister, County Judge, changed date of election from April 14 to May 12 on \$350,000 school bonds. 3-12

Va., Tazewell—Tazewell County, A. C. Buchanan, County Judge, called election for May 5 on \$35,000 Jeffersonville Dist. bonds.

Bond Issues Sold

Ala., Athens—Limestone County sold \$130,000, 5 1/2% funding bonds, just voted, to Steiner Bros., Birmingham. 3-12

Ala., Gadsden—City sold \$42,000 public improvement bonds jointly to Steiner Bros. and Marx & Co., both Birmingham, as 5s, at 97.26. 3-19

Fla., Tampa—City, A. B. Steuart, City Comptroller, sold \$200,000, 5 1/2% refunding bonds to Exchange National Bank, 601 Franklin St., and First National Bank, 416 Franklin St., both Tampa; Atlantic Natl. Corp., Atlantic Natl. Bank Bldg., Jacksonville, and Mercantile Trust Co. of Baltimore, Calvert and Redwood Sts., Baltimore, at 95 1/2. 3-5

Ky., Hopkinsville—Christian County Fiscal Court sold \$65,000 refunding turnpike bonds to Planters' Bank & Trust Co., Hopkinsville, at 4 1/2%. 3-12

Md., Annapolis—State, John M. Dennis, State Treas., opens bids June 10 for \$1,000,000, 4 1/4% bridge bonds.

N. C., Charlotte—City, C. M. Cresswell, City Treas., sold \$2,200,000, \$1000 denom. bonds to group composed of Bancamerica-Blair Corp., First National Old Colony Corp., George B. Gibbons & Co., Inc., and Dewey, Bacon & Co., all New York; Wallace Sanderson & Co., and American Trust Co., Charlotte, to yield 3.75 to 4.15% according to maturities.

N. C., Gastonia—City sold \$214,000 coupon bonds to Stranahan, Harris & Co., Inc., Toledo, Ohio, as 5 1/4s, at 100.40. 2-12

N. C., Greensboro—City sold \$250,000, 6% tax anticipation notes to P. A. Uzzell, Greensboro.

N. C., Louisburg—Franklin County sold \$230,000 tax anticipation notes to E. J. Coulton & Co., New York. 2-26

N. C., Raleigh—City sold \$75,000 revenue anticipation notes to Page Trust Co., as 4 1/2s, at 100.002.

N. C., Raleigh—Raleigh Township sold \$125,000 revenue anticipation notes to Page Trust Co., as 5 1/4s, at 100.002.

Tenn., Dandridge—Jefferson County sold \$161,000 bonds to Joseph. Hutton & Estes, Inc., Nashville, at par: \$95,000, road; \$66,000, school funding bonds.

Tex., Haskell—Haskell County, reported, recently sold \$100,000 courthouse and jail bonds to Mercantile Securities Corp., Dallas. 3-12

Tex., Perryton—Perryton Independent School Dist. sold \$45,000 bonds to Causey, Brown & Co., Denver, Colo., and H. C. Burt & Co., Houston, jointly, at 98.03.

Va., Danville—City sold \$189,000 bonds to American National Bank & Trust Co., Danville, and State Planters Bank & Trust Co., Richmond, jointly, at 102.83: \$100,000, street improvement; \$25,000, electric improvement; \$40,000, waterworks improvement; \$24,000, gas improvement.

New Financial Corporations

Ark., Ashdown—First National Bank, capital \$25,000, chartered; C. E. May, Pres.; J. Miller Johnson, Jr., Cashier.

Fla., New Smyrna—J. F. Soulders, Kansas City, Mo., purchased State Bank Bldg.; will apply for national bank charter at once.

Tenn., Memphis—Bolton Smith & Co., Inc., Union Planters Bank Bldg., chartered; Bolton Smith, T. R. Lill; investment banking.

Va., Norfolk—Fred C. Abbott and associates plan organizing bank; tentative name, Central Bank & Trust Co.

Central Trust Co. of Maryland, Frederick, Md., increased capital stock.

Massanutten National Bank, R. S. Wright, Pres., Strasburg, Va., acquired Toms Brook Bank.

Merchants & Farmers' Bank, J. H. Currie, Pres., Meridian, Miss., increased capital.

Unaka & City Natl. Bank, L. H. Shumate, Pres., and Tennessee National Bank, Adam B. Grouch, Pres., both Johnson City, Tenn., merged; officers of merged institutions include Adam Crouch, Chmn. of Bd.; L. H. Shumate, Pres.; Leslie R. Driver, Cashier.

Financial Notes

Central of Georgia Railway Report

Operating revenue of the Central of Georgia Railway Company for the year ended December 31, 1930, amounted to \$21,082,429 as compared with \$25,033,991 for 1929, according to the company's report, while operating expenses amounted to \$16,123,140, as compared with \$19,134,801 for 1929, leaving a net revenue from operations of \$4,959,288, as compared with \$5,899,189. Net railway operating income amounted to \$3,668,811 for 1930, as compared with \$4,508,456 for 1929. Physical improvements were made during the year which involved the construction of 11.20 track miles of new steel rail and 28.74 track miles of relay rail, in addition to other construction. Five hundred all steel high side gondola cars and 50 steel underframe flat cars, contracted for in 1929, were delivered and put in service in 1930, and 277 freight cars were retired or transferred to other classes. One 15-ton locomotive crane was purchased and one tank car was built at the company's shops.

Pennsylvania Railroad Report

The 84th annual report of the Pennsylvania Railroad Company, covering operations for the year 1930, shows total operating revenues for the year of \$570,385,360 and total operating expenses of \$427,103,181, leaving a net revenue of \$143,282,179. Although operating revenues declined \$112,000,000 as compared with 1929, the net income was sufficient to pay 8 per cent dividends and all other charges and provide a surplus of nearly \$11,500,000. The net income for 1930 was \$68,809,818, equivalent to 10.55 per cent on the outstanding capital stock at the close of the year, as compared with 17.64 per cent on the amount outstanding at the close of 1929. Net income per share (par \$50) was \$5.28 compared with \$8.82 in 1929.

The company expended \$71,643,416 in 1930 for improvements on its own road and equipment in addition to large sums on leased and affiliated lines. Net increase in the investment in road and equipment for the entire Pennsylvania system was \$91,798,977. Engaged at this time in one of its greatest improvement programs, involving an expenditure of approximately \$175,000,000, the company plans to speed up and complete the program in two and a half years instead of four years as originally planned, thus taking advantage of low prices of materials, increased efficiency of labor, less interference from traffic, favorable cost of money and other factors. This program involves the use of more than 150,000 tons of steel, purchase of 230 electric locomotives, electrification of 80 passenger cars and a large outlay for labor. Among major projects to be completed is the electrification of the road between New York and Washington, and the proposed improvements in Baltimore to cost more than \$22,000,000.

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MANUFACTURERS RECORD

BLUE BOOK OF SOUTHERN PROGRESS

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THE annual Blue Book of Southern Progress has a wide circulation among the country's leading executives, professional men, railroads, public utility operating and holding companies, banks, bond houses, public officials in states, counties and municipalities, and among commercial and business organizations generally.

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INDUSTRIES ON FULL SCHEDULE

Martinsville Plants Speed Up Production Activities

Martinsville, Va.—As compared with a survey made 60 days ago to determine factory operations and the unemployment situation here, practically every one of Martinsville's 26 or more industries is now working on an equal or greater schedule and only one of the 16 major industries, or those employing over 25 people each, has shown a loss in the number of employees. The factory record for March is one of the best in the city's history. During this period nearly 175 carloads of manufactured products have been shipped weekly, while Henry County as a whole had weekly average of shipments between 350 and 400 carloads of furniture, textiles, tobacco and other manufactured articles.

A survey just made indicates the factories in Martinsville employ 2560 operatives, a loss of 120 as compared with the previous survey, due to the fact that the R. J. Reynolds Tobacco Co., closes its plant for several months each year at this season. The company employs 210 workmen when in full operation, but now only has 10 employed. On the other hand the American Furniture Co. has

increased its force by 50, bringing the total force to 700 employees, and the W. M. Bassett Furniture Co. employs 450 operatives, working some of them at night. In addition to its full day schedule, the Martinsville Cotton Mill Co. is operating some departments at night, and the Southern Silk Garment Corp. has augmented its force by 25 operatives, bringing the total to 135.

Other companies actively operating include: The Pannell Knitting Co., employing 100 operatives; Virginia Underwear Corp., employing 70; Martinsville Silk Corp. has added new machinery and now employs 100; the Virginia Mirror Co. took on 40 operatives recently and now has 45 employed; The Gravely Novelty Furniture Co. employs 80; Martinsville Novelty Corp., 55; Morris Novelty Furniture Co., 75; Hooker-Bassett Furniture Co., 280 workmen on full time schedule; Sparrow and Gravely Tobacco Co., 75; Lester Lumber Co., 40, and the Cross Laundry Co., 35. Other local industries, employing from 5 to 10 operatives on full time schedule, include the Martinsville Steam Laundry, Patrick Henry Cold Storage Co., Bulletin Printing & Publishing Co., Martinsville Bakery, Aaron Mills, Martinsville Foundry Co., L. and F. Repair Co., American Truck & Body Co., Service Printing Co. and the Martinsville Creamery.

Bids on 14-Mile Rail Link

Gilbert, W. Va.—The Virginian Railway Company, C. H. Hix, president, is taking bids on construction of a 14-mile rail link to the Guyan branch, between Elmore and Gilbert, and contracts are expected to be awarded in May. The link will traverse a mountainous section and involve a large amount of grading. It is expected to be finished in the spring of 1932, when a new Norfolk & Western branch to connect with the Virginian at Gilbert, will also have been completed, opening up railway service from Elmore to Wharnclyffe.

Oyster Shells for Export

Crushed oyster shells, formerly a waste product and then used largely as a road-building material, are being exported from the United States in increasing quantities for use as an ingredient in poultry feed, according to the Department of Commerce. The industry centers around the Gulf Coast, and most of the exports go to the United Kingdom and other parts of Europe. Exports for eight months ending last February totaled 37,258 short tons, valued at \$339,695; compared with 30,713 short tons, valued at \$284,942, in the same period of the preceding year.



PROPOSALS

BOND ISSUES BUILDINGS PAVING GOOD ROADS



Bids close April 23, 1931.

U. S. Engineer Office, P. O. Box 667, Vicksburg, Mississippi. Sealed bids will be received at this office until 10 o'clock A. M., April 23, 1931, and then opened, for constructing and delivering afloat at Vicksburg, Mississippi, one 16 inch self-propelled pipe line dredge complete.

Bids close May 5, 1931.

U. S. Engineer Office, 300 Custom House, Baltimore, Md. Sealed proposals will be received here until 3 P. M., Eastern Standard Time, May 5, 1931, and then publicly opened, for dredging approximately 99,056 cubic yards of material, place measurement, in Broad Creek River, Del., 65,187 cubic yards in Corsica River, Md., and 16,663 cubic yards in Kent Island Narrows, Md.

Bids close April 20, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., March 21, 1931.—SEALED BIDS in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., April 20, 1931, for furnishing all labor and materials and performing all work for the construction (except elevator and dumbwaiter) of the U. S. post office at Hoboken, N. J. Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$25 is made to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. JAS. A. WETMORE, Acting Supervising Architect.

GENERAL INFORMATION About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.
FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible.

THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close April 30, 1931.

DEPARTMENT OF THE INTERIOR, Washington, March 23, 1931. Sealed proposals in duplicate will be received at the Department of Interior until 2 o'clock p. m., Thursday, April 30, 1931, for furnishing all labor and materials for constructing at St. Elizabeths Hospital, Washington,

D. C., one Tuberculosis Building, No. 1, including roads, walks, grading and drainage. This work will include excavating, reinforced concrete construction, hollow tile, brick work, cut stone work, masonry, floor and wall tile, compressed asphalt tile, terrazzo floors, linoleum floors, ironwork, steel sash, steel stairs, tile and metal roofing, roof ventilators, metal lathing, plastering, carpentry, metal weatherstrips, insect screens, window shades, painting, glazing, hardware, plumbing, heating and ventilating, electrical work, electric elevator, and outside service connections. Separate bids will be received for electric elevator, as per bid form. Bids will be considered only from individuals, firms, or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract and in making award, the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. Drawings and specifications may be obtained upon application to the Construction Division, U. S. Veterans' Bureau, Room 764 Arlington Building, Washington, D. C. A certified check for \$50 payable to the Treasurer of the United States, will be required as a guaranty for the safe return of the plans loaned. Special attention is invited to requirements of the Act of March 3, 1931, regarding rate of wages, set forth in the specifications. Time of performance will be considered an element in awarding the contract. The right is reserved to reject any or all bids, waive technical defects, accept one part and reject the other as the interests of the Government may require. Proposals must be securely enveloped, marked "Proposal for construction of Tuberculosis Building, St. Elizabeths Hospital," and be addressed to the Secretary of Interior, Washington, D. C. JOS. M. DIXON, First Assistant Secretary.

Bids close April 23, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., March 26, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., April 23, 1931, for furnishing all labor and materials and performing all work for remodeling and enlarging the U. S. post office at Decatur, Ala. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding one set, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor. **JAS. A. WETMORE**, Acting Supervising Architect.

Bids close April 30, 1931.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the U. S. Veterans' Bureau, Room 764, Arlington Building, Washington, D. C., until 2.30 P. M., April 30, 1931, and then publicly opened, for furnishing all labor and materials and performing all work required for constructing and finishing complete at U. S. VETERANS' HOSPITAL, SALT LAKE CITY, UTAH, ONE MAIN BUILDING NO. 1 and ONE GARAGE AND ATTENDANTS' QUARTERS NO. 2, including roads, walks, grading and drainage. This work will include earth work, reinforced concrete, brick work, hollow building tile, cast stone, slate for stairways, marble floor and wall tile, compressed asphalt tile, terrazzo, linoleum floors, waterproofing and dampproofing, miscellaneous structural metal work, ornamental metal work, fire resisting doors, steel window equipment, steel shelving, cabinets, etc., roofing, sheet metal, lightning conductors, lathing and plastering, carpentry, insect screens, X-ray Laboratory and equipment, window shades, painting, glazing, hardware, roads, walks, grading and drainage, plumbing, plumbing equipment, outside water distribution, outside sewers, gas piping, sterilizing and kitchen equipment, heating, heating equipment, including condensate pump and receiver, outside steam distribution, ventilating, boilers and boiler plant equipment, electrical work (including connections to outside electrical distribution system), extension to fire alarm system, nurses' call system and electric passenger elevator (including elevator enclosure doors), frames and trim, zeolite water softening plant, refrigerating plant and radial brick chimney. **SEPARATE BIDS** will be received for (a) General Construction (including plumbing, heating, electrical work and outside distribution systems); (b) electric elevators; (c) Zeolite Water Softening System; (d) Refrigerating and Ice Making Plant; (e) Radial Brick Chimney; all as set forth in bid form. Bids will be received only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract and in making awards, the record of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Director, drawings and specifications may be obtained upon application to the Construction Division, Room 764, Arlington Building, Washington, D. C., or the Supervising Superintendent of Construction, U. S. Veterans' Bureau, Palo Alto, California. While no deposit will be necessary, return of drawings and specifications within ten days after date of opening bids will be required. Failure to comply with this requirement will be considered in connection with future applications for drawings and specifications. **GEORGE E. IJAMS**, Director. March 26, 1931.

Bids close April 28, 1931.

Roads and Bridges

Richmond, Va.

Sealed bids will be received 10 A. M., April 28, 1931, Va. Dept. of Highways, Richmond, Va., for the construction of:
 Proj. Length & Type excava. Sq. Yds.
 39 0.1 Mi. Soil 2,920 342 cu. yds.
 & Br. Willis Riv., Cu. Yds. Conc. 184.3, reinf. steel 7915, str. 55,000.
 646 Br. Piscataway Cr., Cu. Yds. Conc. 300, reinf. steel 39,040, str. 137,000, creosoted lumber 18,300, lin. ft. piles 9550.
 668 0.8 Mi. Conc. 1,685 8,260
 706 2.7 Mi. Gravel, S.T. 29,350 9,009
 Details obtainable upon request.

Bids close April 28, 1931.

Bridges

Baton Rouge, La.

Sealed Proposals for the construction of the following projects will be received by the Louisiana Highway Commission, Room No. 614, Louisiana National Bank Building, Baton Rouge, Louisiana, until 9.45 A. M. on Tuesday, April 28, 1931. Proposals will not be received after this hour. At 10 o'clock A. M. of the same day and date they will be publicly opened and read in the Chamber of the Senate in the State Capitol Building.

(BOND) PROJECT NO. 6500—**OUACHITA RIVER BRIDGE AT STERLINGTON ON THE FAIRBURYVILLE-BASTROP HIGHWAY**—Located in Union and Ouachita Parishes, Route No. 11. Description: 1—200 ft. fixed span, 3—100 ft. low truss spans, 1—320 ft. swing span on concrete piers resting on untreated timber piles, 3—30 ft. reinforced concrete deck girder spans on concrete piles. Roadway width, 20 ft. Approximately 1.0 mile of earth approaches, including gravel surfacing. Charges for plans, \$3.50.

(BOND) PROJECT NO. 6600—**MERMEN-TAU RIVER BRIDGE AT LAKE ARTHUR ON THE LAKE ARTHUR-ABBEVILLE HIGHWAY**—Located in Jefferson Davis and Vermilion Parishes, Route No. 25. Description: 1—250 ft. fixed span, 2—200 ft. fixed spans on concrete piers resting on untreated timber piles, 20—20 ft. combination I-beam trestle spans on timber piles. Roadway width, 20 ft. Approximately 0.5 mile of earth approaches, including gravel surfacing. Charges for plans, \$3.50.

Full information and proposal forms are available at the offices of the Highway Commission at Baton Rouge. Plans and specifications may be inspected there or will be furnished upon payment of the amounts specified above (not to be refunded).

HARRY B. HENDERLITE,
 State Highway Engineer.
O. K. ALLEN, Chairman,
 Louisiana Highway Commission.

Bids close April 23, 1931.

Louisiana Highway Work

Baton Rouge, La.

Sealed Proposals for the construction of the following projects will be received by the Louisiana Highway Commission, Room No. 614, Louisiana National Bank Building, Baton Rouge, Louisiana, until 9.45 A. M. on Tuesday, April 28, 1931. Proposals will not be received after this hour. At 10 o'clock A. M. of the same day and date they will be publicly opened and read in the Chamber of the House of Representatives in the State Capitol Building.

(BOND) PROJECT NO. 1003—**CHURCH POINT-NORTH AND SOUTH HIGHWAY**—Located in Acadia Parish, Routes 40 and 212. Length 4.0 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$1.50.

(BOND) PROJECT NO. 1503—**ENNES-INTERSECTION ROUTE 7 HIGHWAY**. Located in Beauregard Parish, Route 42. Length 14.2 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(BOND) PROJECT NO. 1906—**DEQUINCY-EAST AND WEST HIGHWAY**. Located in Calcasieu Parish, Route 7. Length 7.0 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 2302—**HOMER-EAST ON ROUTES 11 AND 115 HIGHWAY**. Located in Calborne Parish, Routes 11 and 115. Length 7.5 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 2505—**BENSON-CONVERSE HIGHWAY**. Located in DeSoto and Sabine Parishes, Route 42. Length 7.7 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 3502—**JENNINGS-LAKE ARTHUR HIGHWAY**. Located in Jefferson Davis Parish, Route 25. Length 13.0 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(BOND) PROJECT NO. 4002—**RUSTON-BERNICE HIGHWAY**. Located in Lincoln and Union Parishes, Route 5. Length 18.3 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

nection therewith. Charges for plans, \$3.00. (BOND) PROJECT NO. 4203—**ENOKA-TALLULAH HIGHWAY**. Located in Madison Parish, Route 3. Length 8.6 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 4301—**BASTROP-MER ROUGE HIGHWAY**. Located in Morehouse Parish, Route 11. Length 9.9 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 4803—**OSCAR-ERWINVILLE HIGHWAY**. Located in Pointe Coupee and West Baton Rouge Parishes, Routes 30 and 93. Length 8.1 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 4804—**NEW ROADS-MORGANZA HIGHWAY**. Located in Pointe Coupee Parish, Route 30. Length 10.7 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(BOND) PROJECT NO. 4909—**ALEXANDRIA-SOUTH ON ROUTES 5 AND 205 HIGHWAY**. Located in Rapides Parish, Routes 5 and 205. Length 7.2 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 4912—**RAPIDES-ALEXANDRIA HIGHWAY**. Located in Rapides Parish, Route 20. Length 10.0 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 5806—**VILLE PLATTE-OPELOUSAS HIGHWAY**. Located in Evangeline and St. Landry Parishes, Route 22. Length 12.7 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(BOND) PROJECT NO. 5807—**ETUNICE-BASILE HIGHWAY**. Located in St. Landry and Evangeline Parishes, Route 7. Length 12.7 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.50.

(BOND) PROJECT NO. 6103—**COVINGTON-EAST AND WEST HIGHWAY**. Located in St. Tammany Parish, Route 7. Length 6.0 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 6404—**THIBODAUX-HOUMA HIGHWAY**. Located in Lafourche and Terrebonne Parishes, Route 69. Length 16.9 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(BOND) PROJECT NO. 6801—**BOGALUSA-SUN HIGHWAY**. Located in Washington and St. Tammany Parishes, Route 7. Length 8.1 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$2.00.

(BOND) PROJECT NO. 7101—**DARNELL-DELHI HIGHWAY**. Located in West Carroll and Richland Parishes, Route 16. Length 17.4 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$3.00.

(BOND) PROJECT NO. 7200—**ROUTE 3 THROUGH ST. FRANCISVILLE HIGHWAY**. Located in W. Feliciana Parish, Route 3. Length 4.0 miles. Width 18 ft. Type Portland Cement Concrete Pavement and other work in connection therewith. Charges for plans, \$1.50.

Full information and proposal forms are available at the offices of the Highway Commission at Baton Rouge. Plans and specifications may be inspected there or will be furnished upon payment of the amounts specified above (not to be refunded).

HARRY B. HENDERLITE,
 State Highway Engineer.
O. K. ALLEN, Chairman,
 Louisiana Highway Commission.

Gas Franchise

New Smyrna, Fla.

The City of New Smyrna, Florida, owns its own Municipal Electric and Water Plants and the City is now contemplating the construction of a gas plant. The City Commissioners would consider bona fide proposals from outside utilities in view of considering the granting of a franchise.
JNO. C. FERRIS,
 City Manager.

Bids close April 21, 1931.

Maryland Highway WorkDEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION**NOTICE TO CONTRACTORS**

Baltimore, Md.

SEALED PROPOSALS for building four sections of State Highway as follows:

Charles County, Contract No. Ch-101-84—One section of State Highway along the Gallant Green-Aquasco Road, from the end of Contract No. Ch-90, to the Prince George's County line, a distance of 0.94 miles (Gravel).

Harford County, Contract No. H-113-44—One section of State Highway along the Baker's Corner-Walker's Corner Road, from the end of Contract No. H-93 to Walker's Corner, a distance of 3.91 miles (Macadam).

Harford County, Contract No. H-110-42—One section of State Highway along the Calvery-Bush Road from the end of Cont. No. H-81 to Bush, a distance of 4.2 miles (Macadam).

Washington County, Contract No. W-90-64

—One section of State Highway from Downsville twd. Williamsport, a distance of 2.49 miles (Macadam Resurfacing).

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Sts., Baltimore, Maryland, until 12 M. on the 21st day of April, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check for the sum of Five Hundred (\$500) Dollars, payable to the State Roads Commission.

The successful bidder will be required to give bond, and comply with the Acts of the General Assembly of Maryland, respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 7th day of April, 1931.

G. CLINTON UHL, Chairman.
L. H. STEUART, Secretary.

Bids close April 21, 1931.

Paving

Richmond, Va.

SEALED PROPOSALS WILL BE RECEIVED AT THE OFFICE OF THE DIRECTOR OF PUBLIC WORKS, RICHMOND, VA., UNTIL 3 O'CLOCK P. M. APRIL 21, 1931, for the spall paving of various streets. Approximately 10,000 Sq. Yds. spall on concrete base, 3600 Sq. Yds. spall on sand cushion.

Form of Proposal, Plans and Specifications can be obtained on application.

A charge of \$5.00 will be made for these plans, etc., which sum will not be refunded.

A CERTIFIED CHECK for the amount stated (\$1300.00) on proposals must accompany each bid as a guaranty of execution of contract. The Director of Public Works reserves the right to reject any and all bids.

R. KEITH COMPTON,
Director Public Works,
City Hall.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES**FOR SALE OR TRADE**500 Acres in fee of valuable Fire Clay, Coal and Timber Lands, located in Carter County, Ky., on C. & O. Railway.
BOX 623, ASHLAND, KENTUCKY.**SAND AND GRAVEL**

GRAVEL! SAND! GRAVEL! 320 acres; light, sandy over-burden; 20 to 40 feet strata; best commercial type; mile and half two railroads; 44 miles to Houston. Investigation invited. Hubler, Cleveland, Texas.

PLASTIC FIRE CLAYS**FOR SALE**

High grade Kentucky Flint semi-hard and Plastic Fire Clays. Mines located in Olive Hill District. Carter County Fire-clay Corp., Executive Office 212-214 Second National Bank Building, Ashland, Ky.

TIMBER AND TIMBER LANDS

FOR SALE—20,000 acres timber lands on railroad near Myrtle Beach, S. C., the famous year-round seaside resort, and the Inland Waterway now under construction. Jno. L. Williams, Box 1612, Greenville, S. C.

FARM, FRUIT AND TRUCK LANDS**TEXAS**

LOWER RIO GRANDE Valley orchards and acreage at actual value. Owner's price direct to you. Send for list. ROBERTS REALTY CO., Realtors, McAllen, Tex.

BUSINESS AND INVESTMENT PROPERTIES11,000 ACRE RANCH, in prospective oil and gas territory Southwest Texas, Winter Garden District. Soil adapted to growing citrus fruits, dates and early Winter vegetables. Will sell cheap. Address
OWNER, Box 656, Houston, Texas.**BUSINESS OPPORTUNITIES**

FOR SALE—Mineral Spring Summer Resort, located in mountain section of Old Virginia, 100 acres land, good buildings, on good road; sacrifice price on easy terms. Twenty-five Thousand Dollars. Write owner, H. H. HUFFMAN, New Castle, Va.

Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:

100 lines 28c a line

300 lines 26c a line

500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, postoffice or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

BUSINESS OPPORTUNITIES

LONG TERM LOANS, large amounts, made on industrial, mercantile, sawmill properties. THOS. W. GILMER, Attorney, Bay Minette, Alabama.

MANUFACTURERS—Write for our FREE Classification Sheets of inventions for sale, covering 135 main subjects, and in one or more of which you will doubtless be interested. ADAM FISHER MFG. CO., 578 Enright, St. Louis, Mo.

HAVE COMPLETE OUTFIT for two or three hundred thousand yard dirt job. Wish to bid with paving contractor financially competent. Or will rent cranes equipped as shovel, dragline or pile driver. Also other equipment. R. A. Helmer, care of Citizens' Bank, McClenny, Fla.

SERVICE TO MANUFACTURERS needing additional manufacturing space, or branch outlet. Location—heart of city; railroad siding; automatic sprinkler system; ten thousand feet floor space available; suitable any type wholesale or manufacturing. We now occupy balance of building and need other articles to manufacture or would act as distributors. The M. S. Woods Co., Chattanooga, Tenn.

BUSINESS OPPORTUNITIES

MANUFACTURERS—"Tell 'em once and sell 'em often with a slogan." An apt slogan in the advertising of your products overcomes sales resistance, through its never failing influence on the buying public, and is that irresistible force which makes your advertisement read, re-read and remembered. FRANK P. JORDAN, SLOGANEER, 945 Birch St., Scranton, Pa.

SAND WASHING PLANT FOR SALE

Fully equipped, ready to run, located three miles from Wilmington, Delaware, on concrete road, capacity 250 tons per day, gasoline shovel, narrow gauge track gasoline locomotive, cheap power rates, also railroad siding. Can be purchased cheap or leased.

NEWPORT SUPPLY COMPANY,
Wilmington, Del.**PARKERSBURG.**

Successful manufacturers are invited to join this city's colony of prosperous, medium sized, diversified industrial plants.

BOARD OF COMMERCE,
Parkersburg, West Virginia.

FOR SALE—Near Cheraw, S. C., forty acres mineral rights. New and beautiful granite. Pink, blue and white. Practically undeveloped. Used in one Bank Building in Cheraw, S. C. Fine quality granite for monumental work, building stone, street curbing or paving blocks. Samples on request.

LAWSON McCOMBS,
Route No. 3,
Salisbury, N. Car.**INDUSTRIAL SURVEYS**

ENGINEERING REPORTS on resources of cities and towns. Recommendations for industrial development and zoning made by specialists in locating industries.

TECHNICAL SERVICE CO.,
Woolworth Building New York City**INDUSTRIES WANTED**

WELL-LOCATED Southern town wants industry. Will furnish plant, moving expenses, additional capital and other concessions.

INDUSTRIAL SERVICE CORP.,
Asheville, N. C.

INDUSTRIAL PLANTS

COTTON MILL—Will sacrifice. In heart of cotton belt—Mississippi. Sheeting, osnaburg and rope. Labor cheap and plentiful. Diesel oil engine. In operation. Price \$60,000. Will appraise \$300,000. 8500 spindles. W. D. Dobbins, 504 N. 21st St., Bham, Ala.

FACTORY SITES

TWO AND ONE-QUARTER MILES railroad frontage industrial sites for sale at Baton Rouge. Southern Land and Investment Company, Baton Rouge, La.

WEST VIRGINIA FACTORY SITE
Adjoining town. Along with good water power electric plant. Also fuel oil auxiliary for emergency use. On railroad siding. Will lease or sell. Price reasonable. Development desired. Will offer inducements. Address No. 9097, care Manufacturers Record.

MANUFACTURING AND STORAGE SITES
Large body of land located in the City of Charlotte, North Carolina. One mile from center of city. Population ninety thousand. Land located in heart of Textile District. Available skilled labor. Accessible to Railroads, Street Railways, Hydro-Electric Power. Fronting Hard-surface Street; Water and Sewerage. Approximately two hundred acres. Ideal location for manufacturing and storing enterprises. Will sell upward to meet requirements.

PEGRAM-WADSWORTH LAND CO.

(Owners),
Office, 219 N. College St.,
Charlotte, N. Car.

PATENT ATTORNEYS

FREE "PATENT PARTICULARS"
Sterling Buck, over 23 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

PATENTS—Booklet free. Highest references. Best results. Promptness assured. **WATSON E. COLEMAN**, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

PATENT ATTORNEYS

PATENTS--TRADEMARKS--COPYRIGHTS
Charlotte office convenient to South. **PAUL B. EATON**, Registered Patent Attorney, 1408 Johnston Building, Charlotte, N. C., and 314 McLachlen Building, Washington, D. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1878. **PATENTS, TRADEMARKS, COPYRIGHTS**. Prompt and thorough service. Suite 892, National Press Building, Washington, D. C.

REPRESENTATIVES WANTED

WE MAKE Water Conditioning Chemicals and desire to communicate with men now active, calling on the power trade or handling boiler room specialties. Work is highly remunerative. Address No. 9080, care of Manufacturers Record, Baltimore.

AGENCIES WANTED

SALESMAN—With ten years of successful building specialties selling is anxious to add to present line. Nationally advertised items preferred. **EDW. WM. KOLB**, 1103 Claytonia Terrace, St. Louis, Mo.

ARE YOU LOOKING FOR REPRESENTATIVE IN ATLANTA OR BIRMINGHAM DISTRICTS?
Division or local Manager and Representation solicited—fully qualified—20 years experience with Machinery and Mill Supplies. Enjoy wide and influential acquaintances throughout Atlanta and Birmingham districts. Detailed information regarding experience will be gladly furnished. Address No. 9101, care of Manufacturers Record.

SITUATIONS WANTED

WANTED a job by man forty-five years old, healthy, with unlimited experience in lumber industry, as well as other lines, many years of executive experience. Want connection with well established concern, where experience is necessary for advancement, can represent concerns in the South when requirements are not technical. Address No. 9099, care Manufacturers Record.

SITUATIONS WANTED

HIGHWAY CONSTRUCTION ENGINEER—Fourteen years experience as resident engineer for State and superintendent for contractor. Have constructed plain and reinforced concrete, sheet asphalt, warrenite, topeka, willite, Kentucky asphalt, penetration macadam, shell and oiled lime rock highways. Will consider any reasonable offer of position as engineer, superintendent, foreman or timekeeper. Address 2042 N. W. 22nd Court, Miami, Fla.

MEN WANTED

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-one years. Send only name and address for details.

R. W. BIXBY, INC.,

103 Downtown Bldg. Buffalo, New York

MACHINERY AND SUPPLIES

FOR SALE—Two Type Y Fairbanks Morse Oil Engines, 20 and 25 H.P., \$300 and \$350. One 5 K.W. Westinghouse D.C. Generator, \$120. Flanagan Roller Mills, Bowling Green, S. C.

FOR SALE—1 No. 6 Black & Decker Electric Hammer, with set of 10 drills. Slightly used but in excellent condition. \$125.00. **HARRISON HDW. & FURN. COMPANY**, St. Petersburg, Fla.

FOR SALE—40 H.P. Superior oil engine and Fairbanks Multistage centrifugal pump complete with conversion to gas fuel, \$1350. Three 55 H.P. Primm oil engines and high pressure pumps, plunger pattern, all fine order. Also 100 oil and gas engines, pumps and compressors. **EDWARD A. SCHAMBS, JR.**, Box No. 868, Wichita Falls, Texas.

Florida

Leads the Union in the production of citrus fruits and winter vegetables.

Cattle raising and dairying are also fast becoming leading industries of the state.

Soil—climate and ample rainfall are the main contributing factors.

You should investigate these and other opportunities that the state has to offer.

For information and literature—write

Model Land Company

Flagler System

St. Augustine

Florida

The late Henry M. Flagler and his organizations have served Florida since 1886

OPPORTUNITIES

Industrial and Agricultural

The A. & W. P.—W. Ry. of Alabama and Georgia Railroads traverse a territory rich in material and potential resources. Attractive industrial sites. For information apply:

**Commercial and Agricultural
Dev. Dept.—Above Lines
Atlanta, Georgia**

BUSINESS PROPERTY IN AND AROUND CHATTANOOGA

The Industrial Center of the South.

Let us serve you when in need of Choice Business or Commercial Properties

BROWN & CO., Inc.

Chattanooga

Tennessee

Long Distance Phone 63166

Claude Brown, Pres. & Treas.

AUCTION SALES RECEIVERS SALES Disposal of Land and Property

and so on—offerings of general interest to business men—are handled in this department.

May we help you in similar efforts?

MANUFACTURERS RECORD

Steel Manufacturers

Please Note!

The Quaker City Iron Works, moving to larger quarters, will sell its present plant at a fraction of reproduction cost.

A modern Daylight Plant equipped for the manufacture of iron or steel products or suitable for structural shop, foundry machine shop or warehouse.

BUILDINGS consists of Main Shop, 117'x300'; 3 Crane Runways, Brick Power House, Office Building and Garage. Outer walls throughout practically all glass. Concrete and brick curtain walls. Ground area 58,000 sq. ft.—buildings 41,000 sq. ft. Also additional land and shop, 60'x120', if desired.

EQUIPMENT P. R. R. siding (3-car capacity) in main shop. 1 10-ton and 1 5-ton electric crane—4 2-ton hand cranes in shop. 1 2-ton hand crane in runway in yard. Power house has 200 H. P. Heine Steam Boiler, type E; Combustion Eng. Co. Stoker; 200 K. W. Electric Generator; Ames Uniflow Engine; air compressors.

IMMEDIATE POSSESSION

QUAKER CITY IRON WORKS

Richmond and Tioga Sts., Philadelphia

REGENT 6841

EAST 7884

PARKERSBURG

At this city Kahn & Feldman are spinning silk. The Viscose Company, world's largest manufacturers of rayon, are producing "Crown Rayon."

Executives are requested to investigate the advantages of this, the gateway City between the Central West and the South.

BOARD OF COMMERCE

PARKERSBURG, WEST VIRGINIA



RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES



The Resale Department

offers a market to dispose of used equipment. What it has done for others can be done for you.

Let us tell you more about it

Manufacturers Record
Baltimore, Md.

—TRANSFORMERS— SALES AND REPAIR SERVICE

TWO COMPLETE 66 and 33 Kv. SUBSTATIONS

Full description and price on request.



A complete stock of transformers 1 to 1000 kva. Modern methods make our repair service second to none. Special service on breakdown jobs.

All transformers guaranteed for one year.
Write for Catalog. No. 124-E.

The Electric Service Company, Inc.
"America's Used Transformer Clearing House"
212 Walnut St., Cincinnati, Ohio



LOCOMOTIVE BOILERS

1—125 H. P. Nagle, A. S. M. E.—125 lb. pressure.
1—50 H. P. A. S. M. E. 150 lb. pressure, 9 months use.
1—45 H. P. A. S. M. E. 125 lb. pressure, 20 months use.

M. J. HUNT'S SONS

1620 N. Delaware Ave. Phila., Pa.

FOR SALE ICE MACHINES

5—25 Tons Excellent Condition With or Without Motors.

Md. Pipe & Steel Corp.,
Ostend & Scott Sts., Baltimore, Md.

BOILERS

High pressure water tube and H B T boilers at unbelievable prices. We have them in practically every southern state and are scrapping all but the very best. Write us your requirements.

W. M. SMITH & CO.
Box 1709 Birmingham, Ala.

General Electric Portable Utility Motors

2—3 hp., 1,800 r.p.m., 3 ph., 60 cycle, 220 volt KT-932 motors, mounted on portable two wheel truck, complete with magnetic push button starter, 3 pulleys, tool box, 40 ft. all rubber cable with attaching plug. NEW, in original factory crates, \$100 each.

Just a few of many bargains listed in our Bulletin No. 38—Send for your copy—mailed free on request.

Rockford Power Machinery Co.
626 6th St., Rockford, Ill.

OIL ENGINES

New. Used. 10 to 1000 HP with or without Generators. Real Bargains.

ZELNICKER IN ST. LOUIS

33 yrs. in Rails, Constructors & Railroad Equipment, Steel Piling, Tanks, Pipe, Oil Engines. Our 428th Bulletin Now Ready and Free.



RESALE DEPARTMENT

MACHINERY

EQUIPMENT

SUPPLIES



RENT or SELL

When you rent or buy Read's Rebuilt Equipment it is ready to do the job satisfactorily.

All equipment guaranteed.

CRANES

K-30 Link Belt Combination
K-2 Link Belt Combination
Universal "35"

Universal 6½-ton Truck
Crane, equipped with Christy
Crawlers.

PILE DRIVING
HAMMERS
PUMPS

INGERSOLL RAND
AIR COMPRESSORS
BOILERS

HOISTS

Almost every size and every duty.

HOWARD W. READ CORP.

800 N. Delaware Ave.

Philadelphia, Pa.

IF IT'S NEW PIPE OR SECOND HAND

black or galvanized up to 12"—we have it. Cut and threaded to any length. **SPECIAL:** a carload of 3" or 4". Cheap at any time, rethreaded and coupled.

Your inquiry means—Another satisfied customer.

HUDSON PIPE AND SUPPLY COMPANY

34th Street and C. R. R. of N. J.

Bayonne, N. J.

PUBLIC SALE OF DIESEL ENGINE AND EQUIPMENT

The undersigned Trustee, by virtue of the provisions of a certain decree entered on the 1st day of April, 1931, in that certain chancery cause of D. H. Sencindiver, Trustee, vs. John F. Penrose et als, which cause is pending in the Circuit Court of Frederick County, Va., will sell at public auction on **FRIDAY, MAY 1, 1931, at 2 o'clock P. M.**, on the site of the former plant of the Eastern Silica and Chemical Corporation, located on the Winchester and Wardsville Railroad about three miles South of Gore, a certain second-hand Model 32-240 horse power Fairbanks Morse Full Diesel Engine, direct connected to 200 K. V. A. 60 Cycle-480 Volt A. C. Generator and 10 K. W. 125 Volt Exciter, together with switchboard, rheostat and air starting equipment complete. This engine and equipment is practically new, having been used less than twelve months, and is in excellent condition. Terms of Sale: Cash.

D. H. SENCINDIVER, Trustee, Winchester, Va.

PIPE NEW SECOND HAND

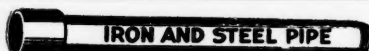
Overhauled and Tested
New Threads and Couplings
Established 1904

**Albert & Davidson
Pipe Corp.**

Second Ave., 50th-51st St., Brooklyn, N. Y.
Telephone Sunset 1900

PIPE FOR EVERY PURPOSE

**JOS. GREENSPON'S SONS
IRON AND STEEL COMPANY**
ST. LOUIS, MO. - TULSA, OKLA. - NEW YORK CITY



Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.

CENTRAL PIPE & SUPPLY CO.
Box 1099 Charleston, W. Va.

PUMPS

1—Steam Turbine Centrifugal Pump. Turbine—"Terry," 96 H.P., 200 lb. steam pressure, 3,000 R.P.M., Pump 4 in. suction, 3 in. discharge, 2 stage, total head 500 ft.

1—Steam Turbine Centrifugal Pump. Turbine—"Terry," 85 H.P., 175 lb. steam pressure, 2,500 R.P.M., Pump type 4 S.T.—3 stage, 450 gallons per minute, total head 500 ft.—2,500 R.P.M., 6 in. suction, 4 in. discharge.

1—16x9¼x10, 500 gallons per minute Gardner Fire Underwriter Fire Pump, complete.

1—Worthington as above.

T. G. ADAMS MACHINERY CO.

220 W. Bay St., Savannah, Ga.
P. O. Box 1597

SATISFACTION

ALBERT PIPE SUPPLY CO., INC.

NEW-RECLAIMED-USED

PIPE

ALL SIZES CUT TO SKETCH AND STOCKED

BERRY & NORTH 13th STS. BROOKLYN, N.Y.

GUARANTEED

SERVICE PRICES

PIPE

Rethreaded, reconditioned, guaranteed, suitable for all practical purposes, furnished with new threads and couplings, 400,000 feet in all sizes from 24" to ¾".

Also large stock of spiral pipe, sizes 7", 10", 12", 14", 20", and 24".

Large stock of valves and fittings, screwed and flanged. Can make attractive prices.

MARINE METAL & SUPPLY CO.

167 South St., New York City

Second Hand and New **PIPE** Overhauled New Threads and Couplings

Also Cut to Sketch

Greenpoint Iron & Pipe Co., Inc.

187-205 Maspeth Ave. Brooklyn, N. Y.

Fairbanks-Morse Oil Engine Generating Units FOR SALE

2—	25 H.P.	Fairbanks-Morse Oil Engines
2—	50 H.P.	" " " "
3—	60 H.P.	" " " "
3—	75 H.P.	" " " "
1—	80 H.P.	" " " "
1—	100 H.P.	" " " "
1—	120 H.P.	" " " "
2—	180 H.P.	" " " "
3—	300 H.P.	" " " "
3—	360 H.P.	" " " "

All above complete with Electric Generators, Exciters, etc. Immediate delivery. Address

CHARLES E. MURPHY

400 W. FIRST ST., BLOOMINGTON, INDIANA

BOILERS

2—400 H.P. Springfield water tube, 225 lb. pressure, ASME.
1—150 H.P. 72"x18" Return tubular, 150 lb. pressure, ASME.
1—125 H.P. Locomotive, 125 lb. pressure, ASME.

GENERATOR SETS

200—KVA 220 vt. 3 ph. 60 cy. Burke with Filer Stowell Uniflow Engine.
2—50 KVA 220 vt. 3 ph. 60 cy. Ridgway with Ridgway Engine.

HEATERS

2—1000 H.P. Cochrane open type feed water heaters.

LATHES & DRILLS

48"x16" Lodge & Shipley, geared head AC motor drive.
38"x60"x32" McCabe, 2 in 1, belt drive.
28"x30" Harrington, belt drive.
24"x8" Lodge & Shipley, belt drive, quick change.
19"x8" Sidney, belt drive, quick change.
4" Cincinnati Bickford radial single pulley drive.
34" Aurora upright sliding head, motor drive.
24" Cincinnati upright sliding head, belt drive.
20" Barnes Camel Back upright drill, single pulley drive.

THE O'BRIEN MACHINERY CO.

113 North Third Street

Philadelphia, Pa.



RAILROAD AND CONTRACTORS' EQUIPMENT



HALF MILLION DOLLAR BUY

BRAND NEW

FULLY GUARANTEED

CRAWLER TYPE

CRANES up to 15 tons cap., and SHOVELS up to 1-1/8 yd. cap.

ALL LATEST MODEL MACHINES



Industrial Brownhoist is consolidating their manufacturing in one enlarged factory. They didn't want to move their spring stock to another plant. So I bought the entire lot at a bargain and you can profit by my purchase.

My buy is your opportunity to get one of the best new gasoline crawler Cranes or Shovels at the lowest price ever quoted on such a machine. But this stock will go fast at these prices. I can't get any more. Neither can you.

PHILIP T. KING

"The Crane Man"

50 Church Street

NEW YORK, N. Y.

SELL THAT IDLE MACHINERY

Tell our readers about it through

THE RESALE DEPARTMENT

it may just suit the needs of someone.

Ask for rates

MANUFACTURERS RECORD, BALTIMORE, MD.

FOR SALE OR LEASE

We have always on hand for sale or lease, Jordan spreaders, sixteen and twenty yard all-steel air dump cars, Model-75, Lorain gasoline shovel ready for immediate delivery in first class condition.

W. VA. CONSTRUCTION COMPANY

First Huntington National Bk. Bldg., Huntington, W. Va.

RAILS NEW & RELAYING ALL WEIGHTS

Let us know your needs. We may have material in stock near you.

WE BUY RAILS FIT TO RE-LAY
ROBINSON & ORR

Columbia Bldg., 248 Fourth Ave., Pittsburgh, Pa.
New Frogs and Switches at low prices.

36" PORTABLE TRACK

25 lb. rails—7 steel ties per 15 ft. section. Over ten miles, located Ocala, Fla. Also locomotives, cars, cranes and shovels.

EQUIPMENT CORPORATION OF AMERICA

1166 So. Washtenaw Ave., Chicago

RELAYING RAILS — SWITCHES

TRACK MATERIAL

THE PERRY BUXTON DOANE CO.

P. O. Box 5253

Boston, Mass.

50 TONS 100 LB. RELAYING RAILS

150 TONS 80 LB. RELAYING RAILS

HENRY LEVIS & COMPANY
Commercial Trust Bldg. Philadelphia

FOR SALE

P. & H. Model 206, 3/4-yd. Dragline.
Byers, 10-ton Caterpillar Crane, 3/4-yd. Clam.
O. & S. 22 1/2-ton Loco. Crane 50' Boom.
16—12-yd. Western Steel Beam Dump Cars.
10—50-ton capy. All Steel Twin Hopper Cars.
75-ton, 20x26" 6-Driver Switcher, A. S. M. E.
50-ton, 18x24" 6-Driver Switcher.
92-ton, 20 1/2x28" Mikado (2-8-2) BUILT 1922.
35-ton, 13x20" 4-Driver Sad. Tank.
56-ton, 18x24" 4-Driver Sad. Tank.

WE HAVE OVER FORTY LOCOMOTIVES IN
STOCK. REBUILT AND READY
ALL TYPES. 10 TO 100 TONS

Southern Iron & Equipment Co.,
Atlanta, Ga.

STEEL SHEET PILING

NEW and USED

Sold — Bought — Purchased

Stocks at principal points.

HYMAN-MICHAELS COMPANY

St. Louis CHICAGO New York
Houston San Francisco Seattle

GASOLINE LOCOMOTIVES

For Sale—At third price

Three new 8 ton 2 ft. gauge Whitcombes. Can be changed to 42" gauge.
These locomotives are new, unused and are in absolutely splendid condition.

W. M. SMITH & CO.

Birmingham Alabama

Shovels or Cranes

FOR SALE

1—Factory rebuilt Lima 1 1/4 cu. yd. capacity. This machine can be equipped with either shovel, clamshell, dragline or drag shovel attachments. Very reasonably priced. Carries new machine guarantee. Located at New York.

1—Gas-Air Erie shovel 1 yd. capacity, A-1 condition. Ready for service. Located Richmond, Va.

1—Type B Erie shovel or clamshell machine, good condition. Located Newark, N. J.

Complete Shovel Attachment for Type "O" Thew. Also, attachment for Type B and B'2 Eries located in New Jersey. Decided bargains.

P & H 1 1/4 yd. gas shovel. Excellent condition, very attractive price. Located South Kearny, N. J.

1—Linn Tractor, 6-yd. capacity, with Waukesha Motor. Machine in very good condition. Priced to sell quickly. Located New York State.

We have both Steam and Gasoline Excavators ranging from 1/2 to 1 1/2 cu. yd. capacity in various parts of the country that will be sold at extremely low prices or leased with leased payments made applying on purchase price.

LIMA EXCAVATOR SALES AGENCY

Eastern Offices and
Lima, O., Office: Warehouse,
Lima Trust Bldg. 317 Frelinghuysen
Tel. Main 4824 Ave., Newark, N. J.
Tel. Waverly 2-0640

Wire or phone at our expense.

A FEW GOOD SPECIALS FOR IMMEDIATE SALE

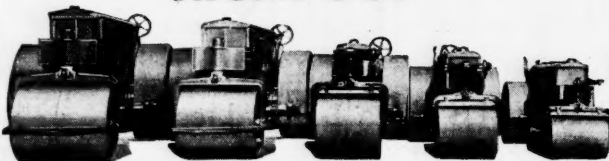
- 1—Chicago Pneumatic Portable Gasoline Driven Air Compressor, size 12x7 1/4x12, Type NSOL.
- 1—Ransom Portable Concrete Mixer, size 21-S, with 6-in. x 8-in. steam engine.
- 1—One Yard Capacity Orange Peel Bucket.
- 1—Self Dumping Contractor's Bucket, 3/4 yd. capacity.
- 1—Glover 9 Ton Narrow Gauge, Saddle Tank Locomotive.
- 1—All Steel Hopper Bottom Gondola Car, 100,000 Capacity.
- 2—Westinghouse 9 1/2" Air Brake Compressors.
- 1—Burton 3 1/2 ton, Class O, broad gauge gasoline Locomotive.
- 1—Baldwin 15 ton, broad gauge, Saddle Tank Locomotive.
- 1—No. 17 Municipal Concrete Mixer on steel truck.
- 1—Barker-Green 18" Portable Conveyor, 30 ft. long.

Priced low for Quick Sale.

NASHVILLE
INDUSTRIAL CORPORATION
OLD HICKORY, TENNESSEE.

BUFFALO-SPRINGFIELD

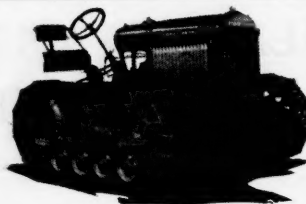
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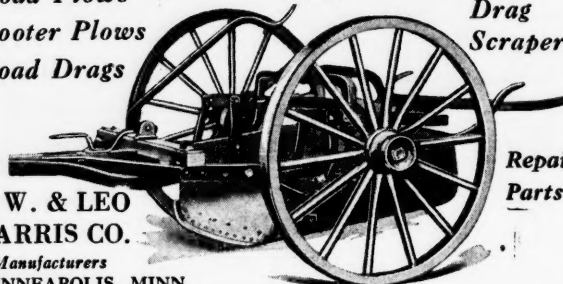
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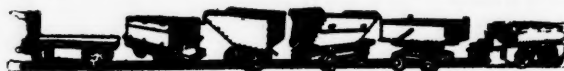
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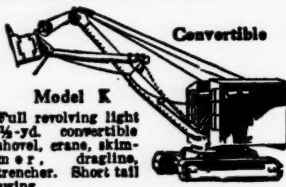


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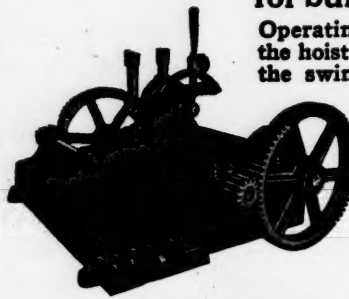
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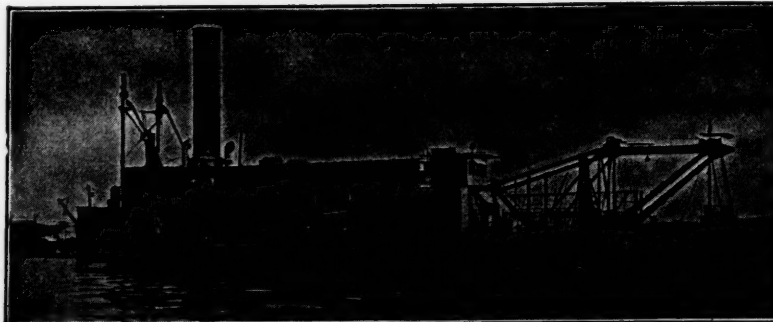
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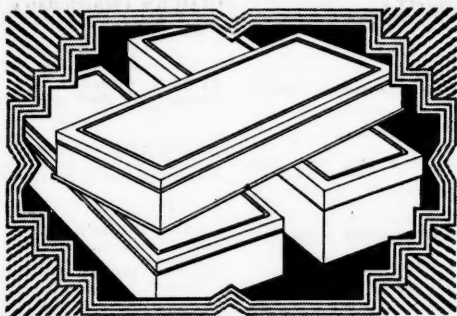
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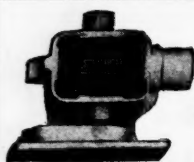
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Lunkenheimer Co., Cincinnati, Ohio.
Mountain State Steel Foundries, Parkers-
burg, W. Va.

CEILING (Metal).
Milcor Steel Co., Milwaukee, Wis.

CEMENT (High Temperature).
Harbison-Walker Refractories Co., Pittsburg.

—(Portland.)
Alpha Portland Cement Corp., Birming-
ham, Ala.
Louisville Cement Co., Louisville, Ky.

—(Guns.)
Cement-Gun Co., Inc., Allentown, Pa.

—(Machinery.)
Traylor Engr. & Mfg. Co., Allentown, Pa.

CHAIN BLOCKS (See Blocks,
Chain.)

CHAINS (Dredge, Quarry, Steam
Shovel).
Knoxville Iron Co., Knoxville, Tenn.
Woodhouse Chain Works, Trenton, N. J.

—(High Speed Roller.)
Diamond Chain & Mfg. Co., Indianapolis.

—(Silent Drive.)
Diamond Chain & Mfg. Co., Indianapolis.

—(Sprocket.)
Chain Belt Co., Milwaukee, Wis.

—(Welded.)
Woodhouse Chain Works, Trenton, N. J.

CHAIRS (Opera and Theatre).
Andrews Co., A. H., Chicago, Ill.

CHEMICALS.
Davison Chemical Co., Baltimore, Md.
Grasselli Chemical Co., Inc., Birmingham.

CHEMISTS, CHEMICAL ENGI-
NEERS (Analytical).
Barrow-Agee Laboratories, Memphis, Tenn.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Longdale Laboratories, Inc., Richmond, Va.
Melgs, Bassett & Slaughter, Phila., Pa.
Moss, Jr., W. Wade, Columbus, Ga.
Pittsburgh Testing Laboratories, Pitts-
burgh, Pa.
Southwestern Laboratories, Fort Worth, Tex.
Stillman & Van Sieson, New York.

—(Consulting, Paper Industry.)
Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete).
Rust Engineering Co., Birmingham, Ala.

—(Radial Brick).
Rust Engineering Co., Birmingham, Ala.

CHLORIDE ACCUMULATOR.
Electric Storage Battery Co., Phila., Pa.

CIRCUIT BREAKERS.
Westinghouse Electric & Mfg. Co., E.
Pittsburgh, Pa.

CLOCKS (Watchman's Portable).
Davis-Paradis Watchman's Clock Corp.,
New York, N. Y.

CLOTH (Wire).
Newark Wire Cloth Co., Newark, N. J.

CLUTCHES (Friction).
Caldwell Co., Inc., W. E., Louisville, Ky.
Wood's Sons Co., T. B., Chambersburg, Pa.

COAL (Bituminous).
Sloss-Sheffield Steel & Iron Co., Birming-
ham, Ala.
Tennessee Coal, Iron & Railroad Co., Bir-
mingham, Ala.

—and Ash-Handling Mch.
Chain Belt Co., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago.

—(Tipples).
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

COATINGS (Protective).
Headley Emulsified Products Co., Phila-
delphia, Pa.

COOKS (Service).
Merco Nordstrom Valve Co., San Francisco,
Calif.

COKE.
Sloss-Sheffield Steel & Iron Co., Birming-
ham, Ala.
Tennessee Coal, Iron & Railroad Co.,
Birmingham, Ala.

COLUMNS (Cast Iron).
U. S. Pipe & Fdry. Co., Burlington, N. J.

CONCRETE (Block Machinery).
Blystone Mfg. Co., Cambridge Springs, Pa.

—(Construction (Reinforced).
Cement-Gun Co., Inc., Allentown, Pa.
Cement Gun Construction Co., Chicago.
Rust Engineering Co., Birmingham, Ala.

—(Floor Slabs).
Federal-American Cement Tile Co., Chicago.

—(Mixers).
Blystone Mfg. Co., Cambridge Springs, Pa.
Chain Belt Co., Milwaukee, Wis.
Dunning & Boschert Press Co., Inc.,
Syracuse, N. Y.
Jaeger Machine Co., Columbus, Ohio.
Lansing Co., Lansing, Mich.

—(Pipe Machinery (See Pipe
Machinery, Concrete).)

—(Placing Equipment).
National Equipment Corp. (Insley Divi-
sion), Milwaukee, Wis.

—(Roofing Tile).
Federal-American Cement Tile Co., Chicago.

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Ingersoll-Rand Co., New York, N. Y.
Manitowoc Iron Works Co., Manitowish, Mich.
Westinghouse Electric & Mfg. Co., E.
Pittsburgh, Pa.

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Steel).
Western Electric Co., New York, N. Y.
Youngtown Sheet & Tube Co., Youngs-
town, Ohio.

CONTRACTORS (Bridge).
Kansas City Bridge Co., Kansas City, Mo.
Snare Corp., Frederick, New York.

—(Drainage and Dredging).
Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.

—(Electrical).
Virginia Engineering Co., Inc., Newport
News, Va.
Walker Electrical Co., Atlanta, Ga.
Warner Service Co., Knoxville, Tenn.
Webb Electric Co., Anderson, S. C.

—(Foundations and Dams).
Snare Corp., Frederick, New York, N. Y.

—(General).
Angle-Blackford Co., Greensboro, N. C.
Blair, Algeron, Montgomery, Ala.
Burkes, Inc., J. V. & R. T., New Orleans.
Cornell Young Co., Inc., Macon, Ga.
Copper Co., Inc., John W., Richmond, Va.
Fiske-Carter Constr. Co., Greenville, S. C.
Gridley Constr. Co., Lee A., Knoxville,
Tenn.
Saville, Inc., Allen J., Richmond, Va.

Smallman-MacQueen Construction Co., Birmingham.
 Snare Corp., Frederick, New York, N. Y.
 Thompson & Bros., T. C., Charlotte, N. C.
 Tucker & Lorton, Charlotte, N. C.
 White Engineering Corp., J. G., New York.

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Angle-Blackford Co., Greensboro, N. C.
 Blair, Algernon, Montgomery, Ala.
 Cooper Co., Inc., John W., Richmond, Va.
 Fiske-Carter Constr. Co., Greenville, S. C.
 Lockwood Greene Engrs., Inc., Boston.
 Smallman-MacQueen Construction Co., Birmingham.
 Snare Corp., Frederick, New York, N. Y.
 Thompson & Bros., T. C., Charlotte, N. C.
 Tucker & Lorton, Charlotte, N. C.
 Virginia Engineering Co., Inc., Newport News, Va.
 White Engineering Corp., J. G., New York.

—Mill Village.

Hornbuckle Contracting Co., Atlanta, Ga.

—(Power Piping.)

Foe Piping & Heating Co., Greenville, S. C.

—(Power Plants.)

Snare Corp., Frederick, New York, N. Y.
 Virginia Engineering Co., Inc., Newport News, Va.

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Cornell-Young Co., Inc., Mason, Ga.

—(Reinforced Concrete.)

Blair, Algernon, Montgomery, Ala.
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 Gridley Constr. Co., Lee A., Knoxville, Tenn.
 Hornbuckle Contracting Co., Atlanta, Ga.
 McCrary Co., J. B., Atlanta, Ga.
 Virginia Engineering Co., Inc., Newport News, Va.

—(Sewerage and Waterworks.)

Gridley Constr. Co., Lee A., Knoxville, Tenn.
 Hardaway Contracting Co., Columbus, Ga.
 Hornbuckle Contracting Co., Atlanta, Ga.
 McCrary Co., The J. B., Atlanta, Ga.
 Snare Corp., Frederick, New York, N. Y.
 Tucker & Lorton, Charlotte, N. C.
 Virginia Engineering Co., Inc., Newport News, Va.

—(Sprinkler System.)

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(New.)
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—Machinery and Supplies.

(Used.)
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 Thew Shovel Co., The, Lorain, Ohio.

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—(Crawler.)

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 Industrial Brownhoist Corp., Cleveland, O.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Crawling Tractor.)

Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Electric Traveling.)

Bedford Foundry & Machine Co., Bedford, Ind.
 Harnischfeger Corp., Milwaukee, Wis.
 Milwaukee Elec. Crane & Hoist Div. of Harnischfeger Corp., Milwaukee, Wis.

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Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

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Buckeye Traction Ditcher Co., Findlay, Ohio.
 Harnischfeger Corp., Milwaukee, Wis.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

—(Locomotive.)

Bucyrus-Erie Co., Erie, Penna.
 Northwest Engineering Co., Chicago, Ill.
 Ohio Power Shovel Co., Lima, Ohio.
 Thew Shovel Co., The, Lorain, Ohio.

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 Ohio Power Shovel Co., Lima, Ohio.
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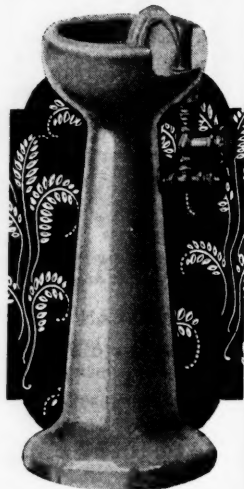
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Goder, Joseph, Chicago, Ill.
Harza Engineering Co., Chicago.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
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Harza Engineering Co., Chicago.
Hedrick, Inc., Ira G., Hot Springs, Nat'l Park, Ark.
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Serrine & Co., J. E., Greenville, S. C.
Tucker & Laxton, Charlotte, N. C.
Wheeler, Walter H., Minneapolis, Minn.
White Engineering Corp., J. G., New York.

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Cramer, Robert, Milwaukee, Wis.
Hills Co., George B., Jacksonville, Fla.
Huey, S. E., Monroe, La.

—(Efficiency.)

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Whitman, Requaert & Smith, Balto., Md.

—(Electrical.)

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Hoosier Engineering Co., Chicago, Ill.
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Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
Webb Electric Co., Anderson, S. C.
White Co., Gilbert C., Durham, N. C.
Wiley & Wilson, Lynchburg, Va.

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Byllesby Engineering and Management Corp., Chicago, Ill.
Cramer, Robert, Milwaukee, Wis.
Lee, William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York, N. Y.
Scotfield Engineering Co., Philadelphia.
Tucker & Laxton, Charlotte, N. C.

White Engineering Corp., J. G., New York.
White Co., Gilbert C., Durham, N. C.

—(Flood Control.)

Harza Engineering Co., Chicago.

—(Gas.)

Byllesby Engineering and Management Corp., Chicago, Ill.
Huey, S. E., Monroe, La.

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Froehling & Robertson, Richmond, Va.
Moss, Jr., W. Wade, Columbus, Ga.
Wadleigh & Bailey, Washington, D. C.
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—(Heating.)

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Wiley & Wilson, Lynchburg, Va.

—(Hydraulic.)

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Main, Inc., Chas. T., Boston, Mass.
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Lee, William S., Charlotte, N. C.
Main, Inc., Chas. T., Boston, Mass.
Sanderson & Porter, New York City.
Scotfield Engineering Co., Philadelphia.
Serrine & Co., J. E., Greenville, S. C.
Tucker & Laxton, Charlotte, N. C.
White Engineering Corp., J. G., New York.
Whitman, Requaert & Smith, Balto., Md.

—(Ice and Refrigerating.)

Engineering Service Corp., Houston, Tex.

—(Industrial Plants.)

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Consoer, Older & Quinlan, Inc., Chicago.
Converse & Co., J. B., Mobile, Ala.
Gardner & Howe, Memphis, Tenn.
Greiner & Co., J. E., Baltimore, Md.
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Tucker & Laxton, Charlotte, N. C.
Turner, C. A. P., Minneapolis, Minn.
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—(Industrial Survey.)

Converse & Co., J. B., Mobile, Ala.
Lockwood Greene Engrs., Inc., New York.
Wadleigh & Bailey, Washington, D. C.

—(Inspection and Tests.)

Barrow-Agee Laboratories, Memphis, Tenn.
Conard, William E., Burlington, N. J.
Cramer, Robert, Milwaukee, Wis.
Dow & Smith, New York, N. Y.
Froehling & Robertson, Inc., Richmond, Va.
Hunt Co., Robert W., Chicago, Ill.
Moss, Jr., W. Wade, Columbus, Ga.
Pender, W. R., Houston, Texas.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Ft. Worth, Tex.

—(Lighting.)

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General Electric Vapor Lamp Co., Hoboken, N. J.
Westinghouse Lamp Co., New York City.
Wiley & Wilson, Lynchburg, Va.

—(Mechanical.)

Charlton & Davis, Ft. Lauderdale, Fla.
Engineering Service Corp., Houston, Tex.
Lee, William S., Charlotte, N. C.
Lockwood Greene Engrs., Inc., New York.
Main, Inc., Chas. T., Boston, Mass.
Meigs, Bassett & Slaughter, Phila., Pa.
Pender, W. R., Houston, Texas.
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—(Municipal.)

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Northwest Engineering Co., Chicago, Ill.
Owen Bucket Co., The, Cleveland, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

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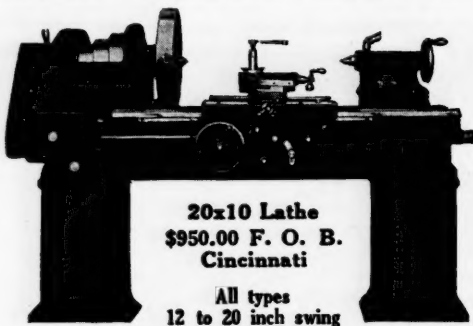
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Koehring Co., Milwaukee, Wis.

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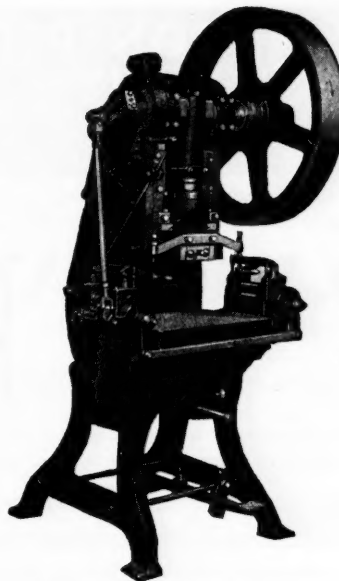
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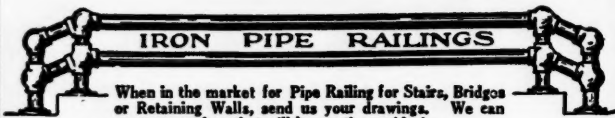
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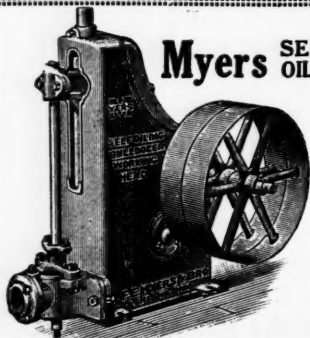
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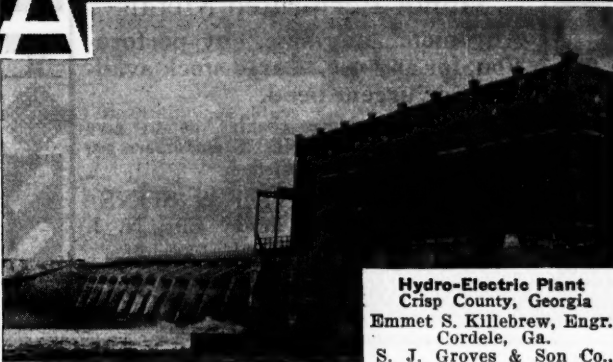
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—and Siding (Metal.)

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Federal-American Cement Tile Co., Chicago.

—Tiles.

Federal-American Cement Tile Co., Chicago.

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Earle Gear and Machine Co., Phila., Pa.

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Skilaw, Inc., Chicago, Ill.

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Harris Co., B. W. & Leo, Minneapolis, Minn.
Sauerman Bros., Chicago, Ill.

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Perry, Buxton, Doane Co., Philadelphia.
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Erdle Perforating Co., Rochester, N. Y.
Hendrick Mfg. Co., Carbondale, Pa.
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Universal Crusher Co., Cedar Rapids, Ia.

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Progressive Mfg. Co., Torrington, Conn.

SCREWS (Machine.)

Progressive Mfg. Co., Torrington, Conn.

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Shore-Line Builders, Inc., Jacksonville, Fla.

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Pacific Flush-Tank Co., New York, N. Y.
Servicised Products Corp., Chicago, Ill.

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Yoder Co., The, Cleveland, Ohio.

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Granite City Steel Co., Granite City, Ill.
Gulf States Steel Co., Birmingham, Ala.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, O.

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Ruberoid Co., New York City.

—(Galvanized and Black.)

American Rolling Mill Co., Middletown.

SHINGLES (Asbestos.)

Ruberoid Co., New York City.

—(Stain.)

Cabot, Inc., Samuel, Boston, Mass.

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Bucyrus-Erie Co., Erie, Penna.
Harnischfeger Corp., Milwaukee, Wis.
Industrial Brownhoist Corp., Cleveland, O.
National Equipment Corp., (Koehring, Insley), Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

SHUTTERS (Steel.)

Merchant & Evans Co., Philadelphia, Pa.

SIEVES (Testing.)

Newark Wire Cloth Co., Newark, N. J.

SIGNALS (Danger.)

Toledo Pressed Steel Co., Toledo, Ohio.

SILICATE OF SODA.

Grasselli Chemical Co., Inc., Birmingham.

SITES (Manufacturing.)

Alabama Power Co., Birmingham, Ala.
Atlanta and West Point R. R., Atlanta.
Brown & Co., Chattanooga, Tenn.
Central of Georgia Rwy., Savannah, Ga.

Fort Worth Chamber of Commerce, Fort Worth, Texas.
Galveston, City of, Galveston, Texas.
Georgia Power Co., Atlanta, Ga.
Missouri-Kansas-Texas Lines, Dallas, Tex.
Model Land Company, (Flagler System), St. Augustine, Fla.
New Orleans Asso. of Commerce, New Orleans, La.
Norfolk & Western Railway, Roanoke, Va.
Parkersburg, W. Va., Board of Commerce.
Reynolds Bros. Lbr. Co., Albany, Ga.
Tennessee Central Railway, Nashville, Tenn.
Texas Power & Light Co., Dallas, Texas.

SKYLIGHTS.
Milcor Steel Co., Milwaukee, Wis.

SLABS (Concrete Floor.)
Federal-American Cement Tile Co., Chicago.
—(Concrete Roof.)
Federal-American Cement Tile Co., Chicago.

SLAG, For Concrete.
Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.
Woodstock Slag Corp., Birmingham, Ala.
—(Furnace.)
Sloss-Sheffield Steel and Iron Co., Birmingham, Ala.
Woodstock Slag Corp., Birmingham, Ala.

SLINGS (Chain.)
Woodhouse Chain Works, Trenton, N. J.
—(Wire Rope.)
American Steel & Wire Co., Chicago, Ill.
Roebbling's Sons Co., John A., Trenton, N. J.

SLUICE GATES AND APPLIANCES.
Smith Co., S. Morgan, York, Pa.

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SPEED REDUCERS.
Earle Gear & Mach. Co., Phila., Pa.

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Bethlehem Steel Co., Bethlehem, Pa.
Sweet's Steel Co., Williamsport, Pa.

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American Steel & Wire Co., Balto., Md.
—(Wire—All Kinds.)
American Steel & Wire Co., Baltimore, Md.

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Grinnell Co., Inc., Providence, R. I.
Southern Automatic Sprinkler Co., Birmingham.

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Birmingham Boiler and Engineering Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Atlanta, Ga.
Downingtown Iron Works, Downingtown, Pa.
Hammond Iron Works, Warren, Pa.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Lombard Iron Works & Supply Co., Augusta, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
U. S. Pipe & Foundry Co., Burlington, N. J.
Virginia Bridge & Iron Co., Roanoke, Va.

STAINS (Shingle, Woodwork.)
Cabot, Inc., Samuel, Boston, Mass.

STAIR Steps (Safety.)
Irving Iron Works Co., Long Is. City, N. Y.
—Treads.
Central Iron & Steel Co., Harrisburg, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.

STANDPIPES.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.
Hammond Iron Works, Warren, Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

STATIONERS (Envelopes, Letter and Billheads, etc.)
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.

STEAM SHOVELS.
Bucyrus-Erie Co., Erie, Pa.
Thew Shovel Co., The, Lorain, Ohio.

STEAM (Specialties.)
Lunkenheimer Co., The, Cincinnati, O.
Mueller Co., Decatur, Ill.

STEEL.
Bethlehem Steel Co., Bethlehem, Pa.
Central Iron & Steel Co., Harrisburg, Pa.
Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Alloy.)
Timken Roller Bearing Co., Canton, Ohio.

—(Cold Rolled.)
American Steel & Wire Co., Balto., Md.

—(Special Analysis.)
Timken Roller Bearing Co., Canton, Ohio.

—(Tool, High Speed.)
Bethlehem Steel Co., Bethlehem, Pa.

—Buildings (Designers and Builders.)
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Belmont Iron Works, Philadelphia, Pa.
Butler Mfg. Co., Kansas City, Mo.
Carolina Steel & Iron Co., Greensboro, N. C.
Champion Bridge Co., Wilmington, O.
Eichleay, Jr., Co., John, Pittsburgh, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.

—Forms (Curb, Gutter, Sidewalk, Road.)
Blaw-Knox Co., Pittsburgh, Pa.

—Plate Construction (Riveted or Welded.)
Birmingham Boiler & Engr. Co., Birmingham, Ala.
Birmingham Tank Co., Birmingham.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Carolina Steel & Iron Co., Greensboro, N. C.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Works, Atlanta, Ga.
Combustion Engr. Corp., New York City
Hammond Iron Works, Warren, Pa.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Lancaster Iron Works, Inc., Lancaster, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Traylor Engr. & Mfg. Co., Allentown, Pa.

STILLS.
Alco Products, Inc., New York City.

STOKERS (Mechanical.)
Babcock & Wilcox Co., The, New York
Combustion Engr. Corp., New York City

STORAGE Batteries.
Electric Storage Battery Co., Philadelphia

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American Creosoting Co., Louisville, Ky.

STRUCTURAL STEEL (Hot Galvanized.)

Bessemer Galvanizing Works, Birmingham

—and Iron.
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Belmont Iron Works, Philadelphia, Pa.
Bristol Steel & Iron Works, Inc., Bristol, Va.
Carnegie Steel Co., Pittsburgh, Pa.
Carolina Steel & Iron Co., Greensboro, N. C.
Champion Bridge Co., Wilmington, Ohio
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Converse Bridge & Steel Co., Chattanooga, Tenn.
Dietrich Brothers, Baltimore, Md.
Eichleay, Jr., Co., John, Pittsburgh, Pa.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Roanoke Iron & Bridge Works, Inc., Roanoke, Va.
Ryerson & Son, Inc., Jos. T., St. Louis and New York.
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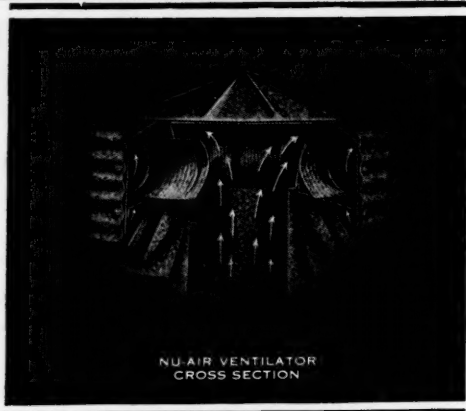
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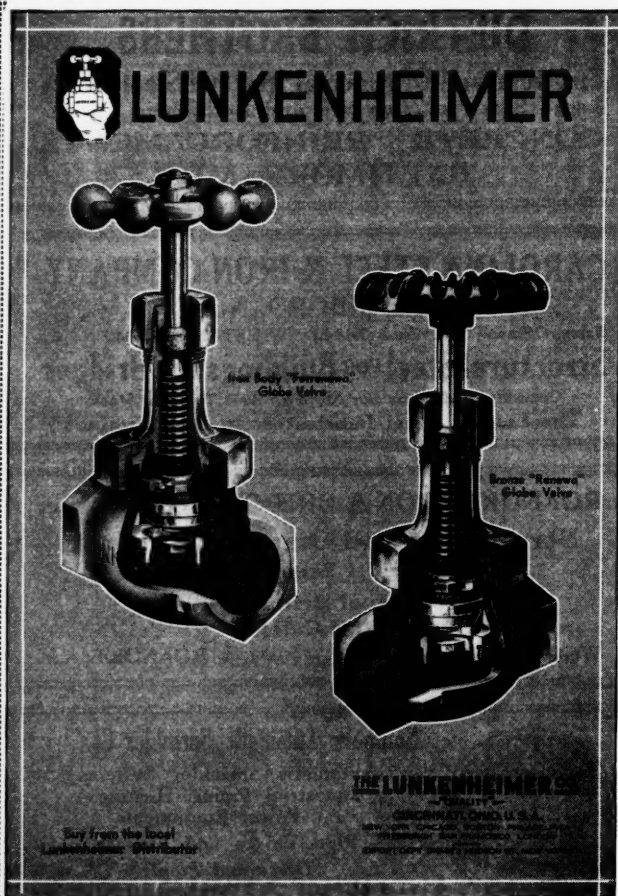
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Davison Chemical Co., The, Balto., Md.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

SUPER-HEATERS (Steam.)
Babcock & Wilcox Co., The, New York.

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MacElwee & Crandall, Inc., Cambridge, Mass.
Technical Service Co., New York, N. Y.

—(Quantity.)
Martin, Joe B., Charlotte, N. C.

SURVEYING INSTRUMENTS.
Weber Co., Inc., F., Philadelphia, Pa.

SWINGING ENGINES.
Dake Engine Co., Grand Haven, Mich.

SWITCHBOARDS, SWITCHES, ETC.
Adam Elec. Co., Frank, St. Louis.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

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Ernst & Ernst, New York, N. Y.

May, Inc., Geo. S., Chicago, Ill.

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Air-Tight Steel Tank Co., Pittsburgh, Pa.
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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Atlanta, Ga.
Cole Mfg. Co., R. D., Newnan, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.

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McClintic-Marshall Co., Pittsburgh, Pa.
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Schofield's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
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Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Atlanta, Ga.
Downingtown Iron Works, Downingtown, Pa.
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Ingalls Iron Works Co., Birmingham, Ala.
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Titusville Iron Works Co., Titusville, Pa.

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—(Wood.)
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Federal-American Cement Tile Co., Chicago.

—(Cork Composition.)
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—(Cork Flooring.)
Congoleum-Nairn, Inc., Kearny, N. J.
United Cork Companies, Lyndhurst, N. J.

—(Floor.)
Hood Co., B. Mifflin, Daisy, Tenn.

—(Roof.)
Hood Co., B. Mifflin, Daisy, Tenn.

—(Sewer.)
Lee Clay Products Co., Clearfield, Ky.

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Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.

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Granite City Steel Co., Granite City, Ill.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

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Toledo Pressed Steel Co., Toledo, Ohio.

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American Bridge Co., New York, N. Y.
Bessemer Galvanizing Works, Birmingham.

—(Radio.)
Bessemer Galvanizing Works, Birmingham.

—(Steel and Wood.)
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Cole Mfg. Co., R. D., Newnan, Ga.

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Sweet's Steel Co., Williamsport, Pa.

—(Semi-Crawler.)
Moon Track Co., Chicago, Ill.

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Atlas Car & Mfg. Co., The, Cleveland, O.
Caterpillar Tractor Co., Peoria, Ill.
Clark Tractor Co., Battle Creek, Mich.
Cleveland Tractor Co., Cleveland, Ohio.
International Harvester Co. of America, Inc., Chicago, Ill.

—(Road.)
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Caterpillar Tractor Co., Peoria, Ill.
Cleveland Tractor Co., Cleveland, Ohio.

TRAILERS (Arch-Girder, Heavy Duty.)
Williams Co., G. H., Erie, Pa.

—(Industrial.)
Easton Car & Construction Co., Easton, Pa.

TRAMWAYS, (Aerial Wire Rope.)
American Steel & Wire Co., Balto., Md.

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General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pittsburgh, Pa.

—(Used.)
Electric Service Co., Cincinnati, O.

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Bessemer Galvanizing Works, Birmingham.
McClintic-Marshall Co., Pittsburgh, Pa.

TRENCH MACHINERY. See
Excavators (Trench.)

TRESTLES (Wooden.)
Patent Scaffolding Co., Chicago, Ill.

TRI-SODIUM PHOSPHATE.
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Universal Crane Co., Lorain, O.

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Moore Dry Kiln Co., Jacksonville, Fla.

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Atlas Car & Mfg. Co., The, Cleveland, O.
Lansing Co., Lansing, Mich.

—(Motor.)
International Harvester Co., of America,
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—(Platform, Freight, Mill, Fac-
tory, etc.)
Clark Tractor Co., Battle Creek, Mich.

TUBES (Boiler.) See Boiler
Tubes.

TUBING (Seamless Steel.)
National Tube Co., Pittsburgh, Pa.
Timken Rolling Bearing Co., Canton, O.

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Cook, Inc., A. D., Lawrenceburg, Ind.
Davis Foundry & Mach. Works, Rome, Ga.
Smith Co., S. Morgan, York, Pa.

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DeLaval Steam Turbine Co., Trenton, N.J.
General Electric Co., Schenectady, N. Y.
Westinghouse Elec. & Mfg. Co., E. Pitts-
burgh, Pa.

TURNBUCKLES.
Russell, Burdall & Ward Bolt & Nut
Co., Port Chester, N. Y.

TURNTABLES.
American Bridge Co., New York, N. Y.
Easton Car & Construction Co., Easton, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
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Blaw-Knox Co., Pittsburgh, Pa.

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UNIT HEATERS.
Grinnell Co., Inc., Providence, R. I.

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Lunkensheimer Co., The, Cincinnati, Ohio.
Marco Nordstrom Valve Co., San Fran-
cisco, Cal.
Mueller Co., Decatur, Ill.
Westinghouse Traction Brake Co., Wil-
merding, Pa.

—(Acid Proof.)
Lunkensheimer Co., The, Cincinnati, Ohio.

—(Gate.)
Ludlow Valve Mfg. Co., The, Troy, N. Y.
Lunkensheimer Co., The, Cincinnati, Ohio.
Wood & Co., E. D., Philadelphia, Pa.

**VAULTS (Bank and Safe De-
posit.)**
York Safe & Lock Co., York, Penna.

VENTILATORS (Roof.)
Merchant & Evans Co., Philadelphia, Pa.
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School.)**
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Davis-Paradis Watchman's Clock Corp.,
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Headley Emulsified Products Co., Phila-
delphia, Pa.
Servicised Products Corp., Chicago, Ill.
Sonnenborn, Sons, Inc., L., New York.

WATER Purification.
Bacharach & Co., E. W., Kansas City,
Mo.
Roberts Filter Mfg. Co., Darby (Phila.), Pa.
Southern Products Corp., New Orleans.

—Softening Apparatus (Purify-
ing.)
American Water Softener Co., Phila., Pa.
International Filter Co., Chicago, Ill.
Southern Products Corp., New Orleans, La.

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Mueller Co., Decatur, Ill.
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Gulf States Steel Co., Birmingham, Ala.
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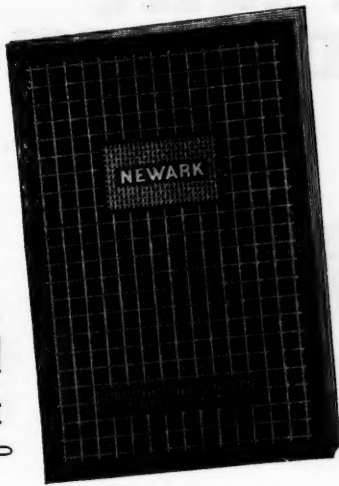
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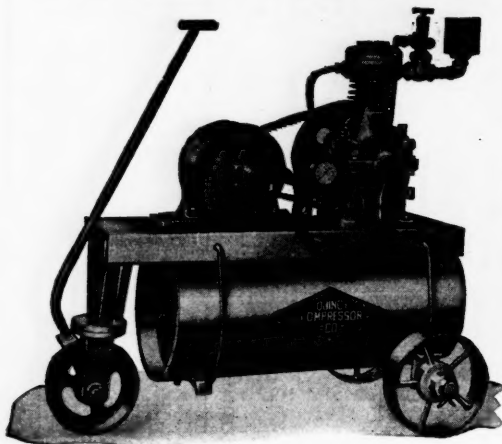
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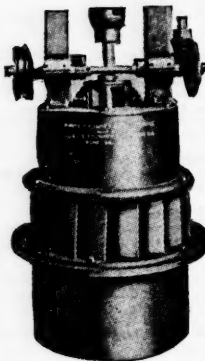
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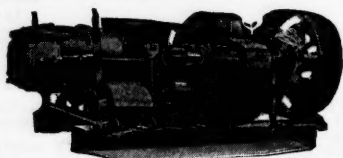
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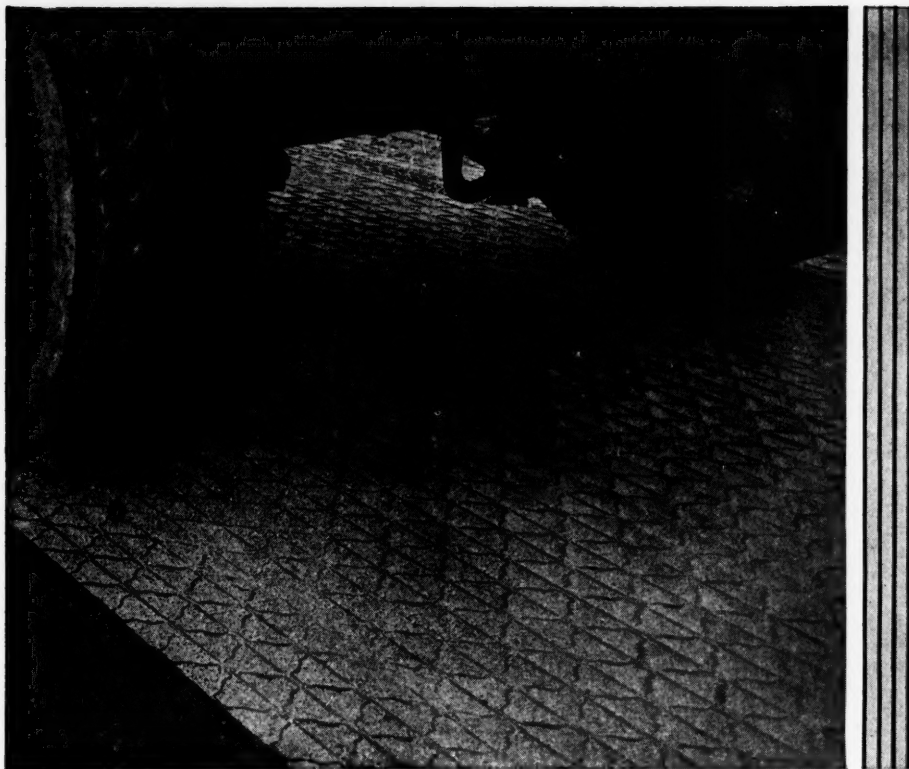
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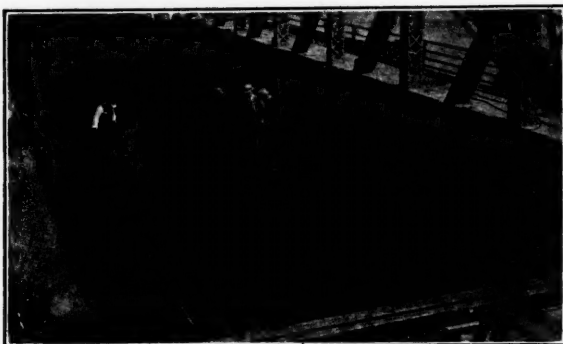


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